# CDX-C5850R

# SERVICE MANUAL

*AEP Model*
*UK Model*

| | |
|---|---|
| Model Name Using Similar Mechanism | CDX-C570R/C580R |
| CD Drive Mechanism Type | MG-363T-121 |
| Optical Pick-up Name | KSS-521A |

## SPECIFICATIONS

### CD player section

| | |
|---|---|
| System | Compact disc digital audio system |
| Signal-to-noise ratio | 90 dB |
| Frequency response | 10 – 20,000 Hz |
| Wow and flutter | Below measurable limit |

### Tuner section

**FM**

| | |
|---|---|
| Tuning range | 87.5 – 108.0 MHz |
| Aerial terminal | External aerial connector |
| Intermediate frequency | 10.7 MHz |
| Usable sensitivity | 12 dBf |
| Selectivity | 75 dB at 400 kHz |
| Signal-to-noise ratio | 65 dB (stereo), 68 dB (mono) |
| Harmonic distortion at 1 kHz | 0.8% (stereo), 0.6% (mono) |
| Separation | 35 dB at 1 kHz |
| Frequency response | 30 – 15,000 Hz |

**MW/LW**

| | |
|---|---|
| Tuning range | MW: 531 – 1,602 kHz<br>LW: 153 – 281 kHz |
| Aerial terminal | External aerial connector |
| Intermediate frequency | 10.7 MHz / 450 kHz |
| Sensitivity | MW: 30 µV<br>LW: 50 µV |

### Power amplifier section

| | |
|---|---|
| Outputs | Speaker outputs (sure seal connectors) |
| Speaker impedance | 4 – 8 ohms |
| Maximum power output | 40 W × 4 (at 4 ohms) |

### General

| | |
|---|---|
| Outputs | Line outputs (2)<br>Power aerial relay control lead<br>Power amplifier control lead<br>Telephone ATT control lead |
| Tone controls | Bass ±8 dB at 100 Hz<br>Treble ±8 dB at 10 kHz |
| Power requirements | 12 V DC car battery (negative ground) |
| Dimensions | Approx. 178 × 50 × 185 mm (w/h/d) |
| Mounting dimension | Approx. 182 × 53 × 162 mm (w/h/d) |
| Mass | Approx. 1.2 kg |
| Supplied accessories | Parts for installation and connections (1 set)<br>Front panel case (1) |

*Design and specifications are subject to change without notice.*

## FM/MW/LW COMPACT DISC PLAYER

MICROFILM

SONY®

## SERVICE NOTE

**CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

### Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

### NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

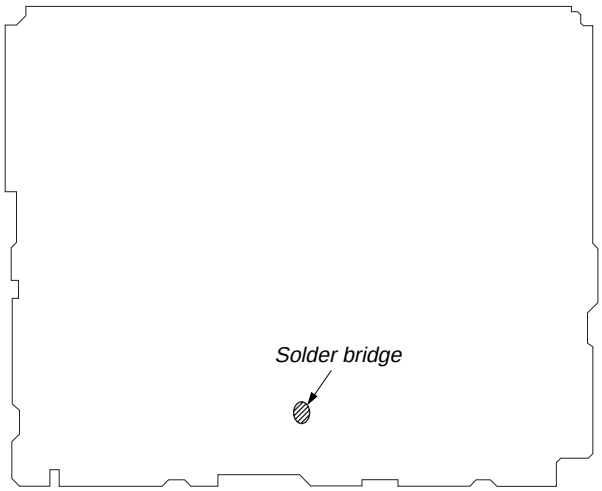
### NOTE FOR REPLACEMENT OF COMPLETE MAIN BOARD

The complete MAIN board (A-3294-597-A) of this set can be set to address the specification for each destination by shorting or opening one solder bridge of the MAIN board on the AEP and UK models and German models :

AEP and UK models : short
German model : open

The solder bridge below shold be opened when replacing the complete MAIN board on the German model.

*– main board (side B) –*



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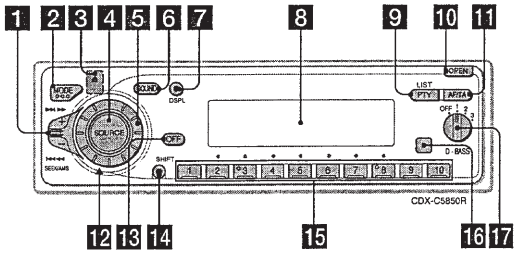
# SECTION 1
# GENERAL

This section is extracted from instruction manual.

## Localización de los controles




Consulte las páginas indicadas para obtener más información

1. **Control SEEK/AMS (búsqueda/sensor de música automático/búsqueda manual) 9, 11, 13, 16, 23, 25**
2. **Botón MODE (selección de banda/ unidad) 10, 11, 21, 24**
3. **Botón ≜ (expulsión) (situado en la parte frontal de la unidad, detrás del panel frontal) 8**
4. **Botón SOURCE (selección de fuente) 8, 10, 11, 15, 21, 24**
5. **Dial (control de volumen/graves/ agudos/izquierdo-derecho/delantero-trasero) 7, 19, 24**
6. **Botón SOUND 19**
7. **Botón DSPL (cambio del modo de indicación) 8, 9, 12, 22, 23, 24, 25**
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11. **Botón AF/TA 13, 14, 15**
12. **Botón de restauración (situado en la parte frontal de la unidad, detrás del panel frontal) 6**
13. **Botón OFF 6, 8**
14. **Botón SHIFT**
    PLAY MODE **10, 11, 12, 13, 15, 25, 26**
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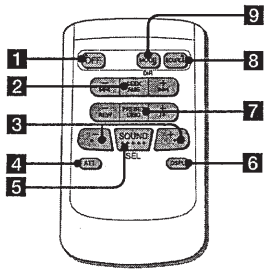
***Optional wireless remote (RM-X47)***




**The corresponding buttons of the wireless remote control the same functions as those on this unit.**

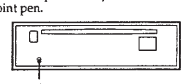
1. **OFF button**
2. **SEEK/AMS button**
3. **⊖ ⊕ buttons**
4. **ATT button**
5. **SOUND/SEL button**
6. **DSPL button**
7. **PRESET/DISC button**
   *You cannot perform manual search or manual tuning with the wireless remote.*
8. **SOURCE button**
9. **MODE/DIR button**



# Getting Started

## Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Remove the front panel and press the reset button with a pointed object, such as a ballpoint pen.



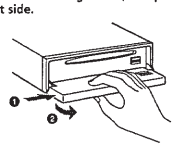
Reset button

*Notes*
- *Pressing the reset button will erase the clock setting and some memorised functions.*
- *When you connect the power supply cord to the unit or reset the unit, wait for about 10 seconds before you insert a disc. If you insert a disc within these 10 seconds, the unit will not be reset, and you will have to press the reset button again.*

## Detaching the front panel

You can detach the front panel of this unit to protect the unit from being stolen.

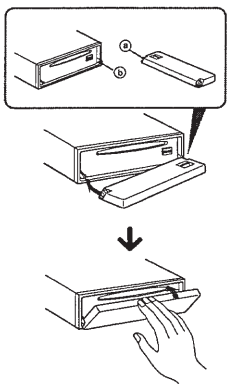
**Before detaching the front panel, be sure to press (OFF). Press (OPEN), then slide the front panel to the right side, and pull out the left side.**



*Notes*
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you detach the panel while the unit is still turned on, the power will turn off automatically to prevent the speakers from being damaged.*
- *When carrying the front panel with you, use the supplied front panel case.*

### Attaching the front panel

Place the hole ⓐ in the front panel onto the spindle ⓑ on the unit as illustrated, then push the left side in.



*Notes*
- *Be sure not to attach the front panel upside down.*
- *Do not press the front panel too hard against the unit when attaching it.*
- *Do not press too hard or put excessive pressure on the display window of the front panel.*
- *Do not expose the front panel to direct sunlight or heat sources such as hot air ducts, and do not leave it in a humid place. Never leave it on the dashboard of a car parked in direct sunlight or where there may be a considerable rise in temperature.*

### Caution alarm

If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds.
If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

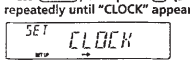


## Setting the clock

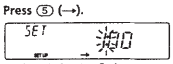
The clock uses a 24-hour digital indication.

Example: To set the clock to 10:08

**1** Press (SHIFT), then press ③ (SET UP) repeatedly until "CLOCK" appears.




❶ Press ⑤ (→).

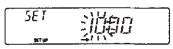



The hour indication flashes.

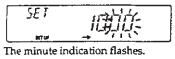
❷ Set the hour.

to go backward

to go forward




❸ Press ⑤ (→).

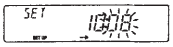



The minute indication flashes.

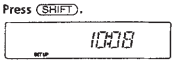
❹ Set the minute.

to go backward

to go forward




**2** Press (SHIFT).




The clock starts.

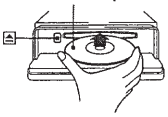
**3** Press (SHIFT).
After the clock setting is complete, the display returns to normal playback mode.

# CD Player

## Listening to a CD

**1** Press (OPEN) and insert the CD.

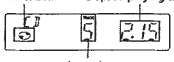
Labelled side up



**2** Close the front panel.
Playback starts automatically.

If a CD is already inserted, press (SOURCE) repeatedly until "CD" appears to start playback.

CD indication  Elapsed playing time



Track number

*Note*
*To play back an 8 cm CD, use the optional Sony compact disc single adapter (CSA-8).*

| To | Press |
|---|---|
| Stop playback | (OFF) |
| Eject the CD | (OPEN) then ⏏ |

### Changing the display item

Each time you press (DSPL) during CD or CD TEXT disc playback, the item changes as follows:

Track number/
Elapsed playback time
↓
Disc name*1/Artist name*2
↓
Track name*1
↓
Clock

*1 *If you inserted a non-CD TEXT disc, "NO NAME" appears in the display.*
*2 *If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)*

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

*Tip*
*The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 20).*



### Automatically scrolling a disc name
— Auto Scroll

If the disc name, artist name, or track name on a CD TEXT disc exceeds 8 characters and the Auto Scroll function is on, information automatically scrolls across the display as follows:
- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*

If you press (DSPL) to change the display item, the disc or track name of the CD TEXT disc is scrolled automatically whether you set the function on or off.

**1** During playback, press (SHIFT).

**2** Press (3) (SET UP) repeatedly until "A.SCRL" appears.

**3** Press (5) (→) to select "A.SCRL-ON."

**4** Press (SHIFT).

To cancel Auto Scroll, select "A.SCRL-OFF" in step 3 above.

*Note*
*For some CD TEXT discs with very many characters, the following cases may happen:*
*— Some of the characters are not displayed*
*— Auto Scroll does not work.*

*Tip*
*To manually scroll the long name of a CD TEXT disc after activating the Auto Scroll function, press (SHIFT), then (2) (←) (manual scroll).*

### Locating a specific track
— Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down and release for each track you want to skip.

To locate succeeding tracks

To locate preceding tracks

### Locating a specific point in a track
— Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward

To search backward

*Note*
*If "└ └ └ └" or "┐┐┐┐" appears in the display, that means you have reached the beginning or the end of the disc and you cannot go any further.*

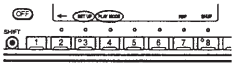


## Playing a CD in various modes

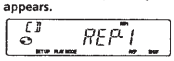
You can play CDs in various modes:
- REP (Repeat Play) repeats the current track.
- SHUF (Shuffle Play) plays all the tracks in random order.

### Playing tracks repeatedly
— Repeat Play

**1** During playback, press (SHIFT).
Every time you press (SHIFT), only the items you can select light up.



**2** Press (7) (REP) repeatedly until "REP-1" appears.



Repeat Play starts.

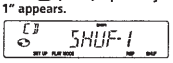
**3** Press (SHIFT).

To return to normal playback mode, select "REP-OFF" in step 2 above.

### Playing tracks in random order
— Shuffle Play

**1** During playback, press (SHIFT).

**2** Press (8) (SHUF) repeatedly until "SHUF-1" appears.



Shuffle Play starts.

**3** Press (SHIFT).

To return to normal playback mode, select "SHUF-OFF" in step 2 above.



# Radio

## Memorising stations automatically
— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorises them in the order of their frequencies. You can store up to 10 stations on each band (FM1, FM2, MW, and LW).

**Caution**
When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

**1** Press (SOURCE) repeatedly to select the tuner.
Each time you press (SOURCE), the source changes as follows:

→ TUNER → CD → MD* →

** If the corresponding optional equipment is not connected, this item will not appear.*

**2** Press (MODE) repeatedly to select the band.
Each time you press (MODE), the band changes as follows:

→ FM1 → FM2 → MW → LW →

**3** Press (SHIFT), then press (4) (PLAY MODE) repeatedly until "B.T.M" appears.

**4** Press (5) (→).
The unit stores stations in the order of their frequencies on the number buttons.
A beep sounds when the setting is stored.

**5** Press (SHIFT).

*Notes*
- *The unit does not store stations with weak signals. If only a few stations can be received, some number buttons will retain their former setting.*
- *When a number is indicated in the display, the unit starts storing stations from the one currently displayed.*
- *If a CD is not in the unit, only the tuner band appears even if you press (SOURCE).*

## Memorising only the desired stations

You can preset up to 20 FM stations (10 each for FM1 and 2), up to 10 MW stations, and up to 10 LW stations in the order of your choice.

**1** Press (SOURCE) repeatedly to select the tuner.

**2** Press (MODE) repeatedly to select the band.

**3** Push the SEEK/AMS control up or down to tune in the station that you want to store on the number button.

**4** Press and hold the desired number button ((1) to (10)) until "MEM" appears.
The number button indication appears in the display.

*Note*
*If you try to store another station on the same number button, the previously stored station will be erased.*



## Receiving the memorised stations

**1** Press (SOURCE) repeatedly to select the tuner.

**2** Press (MODE) repeatedly to select the band.

**3** Press the number button ((1) to (10)) on which the desired station is stored.

### If you cannot tune in a preset station

Push and release the SEEK/AMS control up or down to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Push the SEEK/AMS control up or down repeatedly until the desired station is received.

*Note*
*If the automatic tuning stops too frequently, press (SHIFT), then press (4) (PLAY MODE) repeatedly until "LOCAL" (local seek mode) is displayed. Then press (5) (→) to select "LOCAL-ON." Press (SHIFT). Only the stations with relatively strong signals will be tuned in.*

*Tip*
*If you know the frequency of the station you want to listen to push the SEEK/AMS control up or down and hold until the desired frequency appears (manual tuning).*

### If FM stereo reception is poor — Monaural Mode

1 During radio reception, press SHIFT, then press 4 (PLAY MODE) repeatedly until "MONO" appears.

2 Press 5 (→) repeatedly until "MONO-ON" appears.
The sound improves, but becomes monaural ("ST" disappears).

3 Press SHIFT.

To return to normal mode, select "MONO-OFF" in step 2 above.

### Changing the display item

Each time you press DSPL, the item changes as follows:

Frequency ⟷ Clock

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

*Tip*
*The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 20).*

# RDS

## Overview of the RDS function

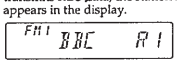
Radio Data System (RDS) is a broadcasting service that allows FM stations to send additional digital information along with the regular radio programme signal. Your car stereo offers you a variety of services. Here are just a few: retuning the same programme automatically, listening to traffic announcements, and locating a station by programme type.

*Notes*
- *Depending on the country or region, not all of the RDS functions are available.*
- *RDS may not work properly if the signal strength is weak or if the station you are tuned to is not transmitting RDS data.*

## Displaying the station name

The name of the current station lights up in the display.

Select an FM station (page 10).
When you tune in an FM station that transmits RDS data, the station name appears in the display.




*Note*
*The "•" indication means that an RDS station is being received.*

### Changing the displayed item

Each time you press DSPL, the item changes as follows:

Frequency (Station Name) ⟷ Clock

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

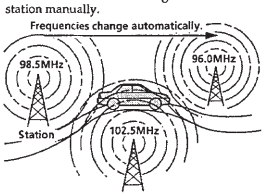


*Tip*
*The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 20).*

*Note*
*"NO NAME" appears if the received station does not transmit RDS data.*

## Retuning the same programme automatically — Alternative Frequencies (AF)

The Alternative Frequencies (AF) function automatically selects and retunes the station with the strongest signal in a network. By using this function, you can continuously listen to the same programme during a long-distance drive without having to retune the station manually.




1 Select an FM station (page 10).

2 Press AF/TA repeatedly until "AF-ON" appears.
The unit starts searching for an alternative station with a stronger signal in the same network.

*Note*
*When there is no alternative station in the area and you do not need to search for an alternative station, turn the AF function off by pressing AF/TA repeatedly until "AF TA-OFF" appears.*

### Changing the displayed item

Each time you press AF/TA, the item changes as follows:

* *Select this to turn on both the AF and TA functions.*

*Notes*
- *When "NO AF" and the station name flash alternately, it means that the unit cannot find an alternative station in the network.*
- *If the station name starts flashing after selecting a station with the AF function on, this indicates that no alternative frequency is available. Push the SEEK/AMS control up or down while the station name is flashing (within eight seconds). The unit starts searching for another frequency with the same PI (Programme Identification) data ("PI SEEK" appears and no sound is heard). If the unit cannot find another frequency, "NO PI" appears, and the unit returns to the previously selected frequency.*

### Listening to a regional programme

The "REG-ON" (regional on) function lets you stay tuned to a regional programme without being switched to another regional station. (Note that you must turn the AF function on.) The unit is factory preset to "REG-ON," but if you want to turn off the function, do the following.

1 During radio reception, press SHIFT, then press 4 (PLAY MODE) repeatedly until "REG" appears.

2 Press 5 (→) repeatedly until "REG-OFF" appears.

3 Press SHIFT.
Note that selecting "REG-OFF" might cause the unit to switch to another regional station within the same network.

To return to regional on, select "REG-ON" in step 2 above.

*Note*
*This function does not work in the United Kingdom and in some other areas.*



### Local link function (United Kingdom only)

The Local Link function lets you select other local stations in the area, even if they are not stored on your number buttons.

1 Press a number button that has a local station stored on it.

2 Within five seconds, press the number button of the local station again.

3 Repeat this procedure until the desired local station is received.

## Listening to traffic announcements

The Traffic Announcement (TA) and Traffic Programme (TP) data let you automatically tune in an FM station that is broadcasting traffic announcements even if you are listening to other programme sources.

Press AF/TA repeatedly until "TA-ON" or "AF TA-ON" appears.
The unit starts searching for traffic information stations. "TP" appears in the display when the unit finds a station broadcasting traffic announcements.
When the traffic announcement starts, "TA" flashes. The flashing stops when the traffic announcement is over.

*Tip*
*If the traffic announcement starts while you are listening to another programme source, the unit automatically switches to the announcement and goes back to the original source when the announcement is over.*

*Notes*
- *"NO TP" flashes for five seconds if the received station does not broadcast traffic announcements. Then, the unit starts searching for a station that broadcasts it.*
- *When "EON" appears with "TP" in the display, the current station makes use of broadcast traffic announcement of other stations in the same network.*



### To cancel the current traffic announcement

Press AF/TA or SOURCE.
To cancel all traffic announcements, turn off the function by pressing AF/TA until "AF TA-OFF" appears.

### Presetting the volume of traffic announcements

You can preset the volume level of the traffic announcements beforehand so you won't miss the announcement. When a traffic announcement starts, the volume will be automatically adjusted to the preset level.

1 Select the desired volume level.

2 Press AF/TA for two seconds.
"TA" appears and the setting is stored.

### Receiving emergency announcements

If an emergency announcement comes in while you are listening to the radio, the programme will be automatically switched to it. If you are listening to a source other than the radio, the emergency announcements will be heard if you set AF or TA to on. The unit will then automatically switch to these announcements no matter which source you are listening to at the time.

## Presetting the RDS stations with the AF and TA data

When you preset RDS stations, the unit stores each station's data as well as its frequency, so you don't have to turn on the AF or TA function every time you tune in the preset station. You can select a different setting (AF, TA, or both) for individual preset stations, or the same setting for all preset stations.

### Presetting the same setting for all preset stations

1 Select an FM band (page 10).

2 Press AF/TA repeatedly to select either "AF-ON", "TA-ON" or "AF TA-ON" (for both AF and TA functions).
Note that selecting "AF TA-OFF" stores not only RDS stations, but also non-RDS stations.

3 Press SHIFT, then press 4 (PLAY MODE) repeatedly until "BTM" appears.

4 Press 5 (→) until "B.T.M" flashes.

5 Press SHIFT.

### Presetting different settings for each preset station

1 Select an FM band, and tune in the desired station (page 11).

2 Press AF/TA repeatedly to select either "AF-ON", "TA-ON" or "AF TA-ON" (for both AF and TA functions).

3 Press the desired number button until "MEM" appears.
Repeat from step 1 to preset other stations.

*Tip*
*If you want to change the preset AF and/or TA setting after you tune in the preset station, you can do so by turning the AF or TA function on or off.*

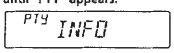
## Locating a station by programme type

You can locate the station you want by selecting one of the programme types shown below.

| Programme types | Display |
|---|---|
| News | NEWS |
| Current Affairs | AFFAIRS |
| Information | INFO |
| Sports | SPORT |
| Education | EDUCATE |
| Drama | DRAMA |
| Culture | CULTURE |
| Science | SCIENCE |
| Varied | VARIED |
| Popular Music | POP M |
| Rock Music | ROCK M |
| Easy Listening | EASY M |
| Light Classical | LIGHT M |
| Classical | CLASSICS |
| Other Music Type | OTHER M |
| Weather | WEATHER |
| Finance | FINANCE |
| Children's programmes | CHILDREN |
| Social Affairs | SOCIAL A |
| Religion | RELIGION |
| Phone In | PHONE IN |
| Travel | TRAVEL |
| Leisure | LEISURE |
| Jazz Music | JAZZ |
| Country Music | COUNTRY |
| National Music | NATION M |
| Oldies Music | OLDIES |
| Folk Music | FOLK M |
| Documentary | DOCUMENT |
| Not specified | NONE |

***Note***
*You cannot use this function in some countries where no PTY (Programme Type selection) data is available.*

**1 Press (PTY/LIST) during FM reception until "PTY" appears.**




The current programme type name appears if the station is transmitting the PTY data. "- - - -" appears if the received station is not an RDS station, or if the RDS data has not been received.

**2 Press (PTY/LIST) repeatedly until the desired programme type appears.**
The programme types appear in the order shown in the above table. Note that you cannot select "NONE" (Not specified) for searching.

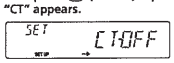
**3 Push the SEEK/AMS control up or down.**
The unit starts searching for a station broadcasting the selected programme type. When the unit finds the programme, the programme type appears again for five seconds.
"NO" and the programme type appear alternately for five seconds if the unit cannot find the programme type. It then returns to the previous selected station.



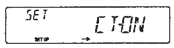
## Setting the clock automatically

The CT (Clock Time) data from the RDS transmission sets the clock automatically.

**1 During radio reception, press (SHIFT), then press (3) (SET UP) repeatedly until "CT" appears.**




**2 Press (5) (→) repeatedly until "CT-ON" appears.**
The clock is set.




**3 Press (SHIFT) to return to the normal display.**

**To cancel the CT function**

**Select "CT-OFF" in step 2 above.**

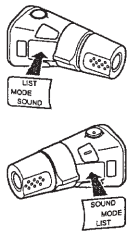
*Notes*
- *The CT function may not work even though an RDS station is being received.*
- *There might be a difference between the time set by the CT function and the actual time.*

# Other Functions

You can also control this unit with an optional rotary commander.

## Labelling the rotary commander

Depending on how you mount the rotary commander, attach the appropriate label as shown in the illustration below.

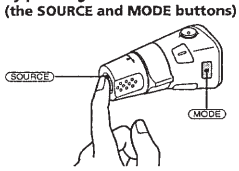





## Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.
You can also control optional CD or MD units with the rotary commander.

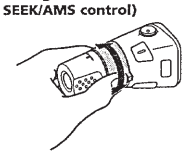
**By pressing buttons (the SOURCE and MODE buttons)**




**Each time you press (SOURCE), the source changes as follows:**
TUNER → CD → MD*
* *If the corresponding optional equipment is not connected, this item will not appear.*

**Pressing (MODE) changes the operation in the following ways;**
- Tuner: FM1 → FM2 → MW → LW
- CD unit: CD1 → CD2 → ...
- MD unit: MD1 → MD2 → ...

**By rotating the control (the SEEK/AMS control)**



**Rotate the control momentarily and release it to:**
- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.
- Tune in stations automatically. Rotate and hold the control to find a specific station.

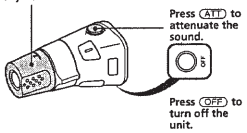
**By pushing in and rotating the control (the PRESET/DISC control)**

**Push in and rotate the control to:**
- Receive the stations memorised on the number buttons.
- Change the disc.

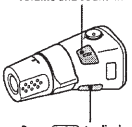


**Other operations**

**Rotate the VOL control to adjust the volume.**



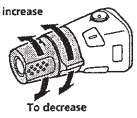

**Press (SOUND) to adjust the volume and sound menu.**



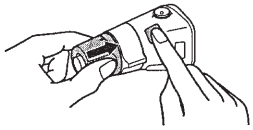
**Press (LIST) to display the memorised names.**

**Changing the operative direction**

The operative direction of controls is factory-set as shown below.




If you need to mount the rotary commander on the right hand side of the steering column, you can reverse the operative direction.



**Press (SOUND) for two seconds while pushing the VOL control.**

*Tip*
*You can also change the operative direction of these controls with the unit (page 20).*

## Adjusting the sound characteristics

You can adjust the bass, treble, balance, and fader.
You can store the bass and treble levels independently for each source.

**1 Select the item you want to adjust by pressing (SOUND) repeatedly.**
VOL (volume) → BAS (bass) → TRE (treble) → BAL (left-right) → FAD (front-rear)

**2 Adjust the selected item by rotating the dial.**
Adjust within three seconds after selecting the item. (After three seconds, the dial function reverts to volume control.)

## Attenuating the sound

**Press (ATT) on the optional rotary commander or wireless remote.**
"ATT-ON" flashes momentarily.

To restore the previous volume level, press (ATT) again.

*Tip*
*The unit decreases the volume automatically when a telephone call comes in (Telephone ATT function).*

## Changing the sound and display settings

The following items can be set:
- CLOCK (page 7).
- CT (Clock Time) (page 17).
- D.INFO (Dual Information) - to display the clock and the play mode at the same time (ON) or to display the information alternately (OFF).
- AMBER/GREEN - to change the illumination colour to amber or green.
- DIM (Dimmer)-to change the brightness of the display.
  — Select "ON" to dim the display.
- BEEP - to turn on or off the beeps.
- RM (Rotary Commander) - to change the operative direction of the controls of the rotary commander.
  — Select "NORM" to use the rotary commander as the factory-set position.
  — Select "REV" when you mount the rotary commander on the right side of the steering column.
- M.DSPL (Motion Display) - to turn the motion display on or off.
- A.SCRL (Auto Scroll) (page 9, 22).

*Note*
*If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be disabled.*

**1** Press (SHIFT).

**2** Press (3) (SET UP) repeatedly until the desired item appears.

Each time you press (3) (SET UP), the item changes as follows:

CLOCK → CT → D.INFO* → AMBER/GREEN → DIM → BEEP → RM → M.DSPL → A.SCRL*

** When no CD or MD is playing, this item will not appear.*

*Note*
*The displayed item will differ depending on the source.*

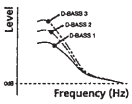
**3** Press (5) (→) to select the desired setting (Example: ON or OFF).

**4** Press (SHIFT).
After the mode setting is complete, the display returns to normal playback mode.



## Boosting the bass sound
— D-bass

You can enjoy a clear and powerful bass sound. The D-bass function boosts the low frequency signal with a sharper curve than conventional bass boost.
You can hear the bass line more clearly even while the vocal volume remains the same. You can emphasise and adjust the bass sound easily with the D-BASS control.




### Adjusting the bass curve

**Turn the D-BASS control to adjust the bass level (1, 2 or 3).**
"D-BASS" appears in the display.

To cancel, turn the control to OFF.

*Note*
*If the bass sound becomes distorted, adjust the D-BASS control or volume.*

**With Optional Equipment**

## CD/MD Unit

This unit can control a maximum of seven external CD/MD units in this configuration:
CD unit - maximum of five
MD unit - maximum of five.
Any combination up to seven will work.
If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear in the display when you play a CD TEXT disc.

## Playing a CD or MD

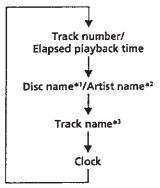
**1** Press (SOURCE) repeatedly to select CD or MD.

**2** Press (MODE) until the desired unit appears.
CD/MD playback starts.

When a CD/MD unit is connected, all the tracks play from the beginning.

### Changing the display item

Each time you press (DSPL) during CD, CD TEXT, or MD playback, the item changes as follows:




**1 If you have not labelled the disc or if there is no disc name prerecorded on the MD, "NO NAME" appears in the display.*
**2 If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)*
**3 If the track name of a CD TEXT disc or MD is not prerecorded, "NO NAME" appears in the display.*



You can label CD and CD TEXT discs with a personalised name using the disc memo function. Refer to "Labelling a CD" (page 24). However, if you use personalised labels, they will always take priority over the original CD TEXT information when such information is displayed.

*Tip*
*If you want to display the original CD TEXT information after labeling the CD TEXT disc with a personalized name, press (SHIFT), then (5) (→).*

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

*Tip*
*The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 20).*

### Automatically scrolling a disc name
— Auto Scroll

If the disc name, artist name, or track name on a CD TEXT disc or MD exceeds 8 characters and the Auto Scroll function is on, information automatically scrolls across the display as follows:
- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*

If you press (DSPL) to change the display item, the disc or track name of the MD or CD TEXT disc is scrolled automatically whether you set the function on or off.

**1** During playback, press (SHIFT).

**2** Press (3) (SET UP) repeatedly until "A.SCRL" appears.

**3** Press (5) (→) to select "A.SCRL-ON."

**4** Press (SHIFT).

To cancel Auto Scroll, select "A.SCRL-OFF" in step 3 above.

*Note*
*For some CD TEXT discs with very many characters, the following cases may happen:*
*— Some of the characters are not displayed*
*— Auto Scroll does not work.*

*Tip*
*To manually scroll the long name of an MD or CD TEXT disc after activating the Auto Scroll function, Press (SHIFT), then (2) (←) (manual scroll).*



### Locating a specific track
— Automatic Music Sensor (AMS)

**During playback, push the SEEK/AMS control up or down and release for each track you want to skip.**

To locate succeeding tracks
To locate preceding tracks

### Locating a specific point in a track
— Manual Search

**During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.**

To search forward
To search backward

### Locating a disc by disc number
— Direct Disc Selection

**Press the number button that corresponds with the desired disc number.**
The desired disc in the current unit begins playback.

## Playing tracks repeatedly
— Repeat Play

You can select:
- REP-1 - to repeat a track.
- REP-2 - to repeat a disc.

**1** During playback, press (SHIFT).

**2** Press (7) (REP) repeatedly until the desired setting appears.

REP-1 → REP-2 → REP-OFF

Repeat Play starts.

**3** Press (SHIFT).

To return to normal playback mode, select "REP-OFF" in step 2 above.

## Playing tracks in random order — Shuffle Play

You can select:
- SHUF-1 - to play the tracks on the current disc in random order.
- SHUF-2 - to play the tracks in the current unit in random order.
- SHUF-ALL - to play all the tracks in all the units in random order.

**1** During playback, press (SHIFT).

**2** Press (8) (SHUF) repeatedly until the desired setting appears.

SHUF-1 → SHUF-2 → SHUF-ALL* → SHUF-OFF

Shuffle Play starts.

** "SHUF-ALL" is available for CD changer(s) only.*

**3** Press (SHIFT).

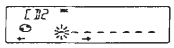
To return to normal playback mode, select "SHUF-OFF" in step 2 above.

## Labelling a CD — Disc Memo

**(For a CD unit with the custom file function)**

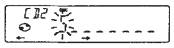
You can label each disc with a personalised name. You can enter up to eight characters for a disc. If you label a CD, you can locate the disc by name (page 25) and select the specific tracks for playback (page 26).

**1 Play the CD and press (PTY/LIST) for two seconds.**



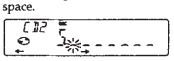
**2 Enter the characters.**

**❶ Rotate the dial clockwise to select the desired characters.**
**(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → _)**



If you rotate the dial counterclockwise, the characters will appear in reverse order.
If you want to put a blank space between characters, select "_" (under-bar).

**❷ Press (5) (→) after locating the desired character.**
The flashing cursor moves to the next space.



If you press (2) (←), the flashing cursor moves to the left.

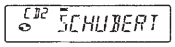
**❸ Repeat steps ❶ and ❷ to enter the entire name.**

**3 To return to normal CD playback mode, press (PTY/LIST) for two seconds.**

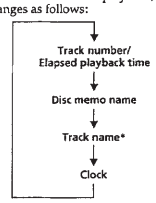
*Tip*
*To erase or correct a name, enter "_" (under-bar) for each character.*

### Displaying the disc memo

**Press (DSPL) during CD or CD TEXT disc playback.**



Each time you press (DSPL) during CD, CD TEXT disc or MD playback, the item changes as follows:




** If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear in the display when you play a CD TEXT disc.*

### Erasing the disc memo

**1 Press (SOURCE) repeatedly to select CD.**

**2 Press (MODE) repeatedly to select the CD unit.**

**3 Press (PTY/LIST) for two seconds.**

**4 Press (DSPL) for two seconds.**

**5 Rotate the dial to select the name you want to erase.**

**6 Press (6) (ENTER) for two seconds.**
The name is erased.
Repeat steps 5 and 6 if you want to erase other names.

**7 Press (PTY/LIST) for two seconds.**
The unit returns to normal CD playback mode.

*Note*
*When a personalised label is erased, the original CD TEXT information will appear in the display.*

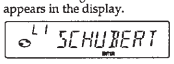


## Locating a disc by name

**— List-up (For a CD unit with the custom file function or an MD unit )**

You can use this function for discs that have been assigned a custom name. For more information on disc names, refer to "Labelling a CD" (page 24).

**1 Press (PTY/LIST).**
The name assigned to the current disc appears in the display.



When you assign a disc memo label to a CD TEXT disc, it takes priority over the original CD TEXT information.

**2 Press (PTY/LIST) repeatedly until you find the desired disc.**

**3 Press (6) (ENTER) to play the disc.**

*Notes*
- *After a disc name has been displayed for five seconds, the display returns to normal playback mode. To turn off the display, press (DSPL).*
- *The track names are not displayed during MD or CD TEXT disc playback.*
- *If there are no discs in the magazine, "NO DISC" appears in the display.*
- *If a disc has not been assigned a custom file, "********" appears in the display.*
- *If the disc information has not been read by the unit, "NOT READ" appears in the display. To load a disc, first press the number button, then choose the disc that has not been loaded.*
- *There are also some letters which cannot be displayed (during MD or CD TEXT disc playback).*

## Selecting specific tracks for playback

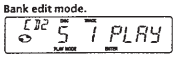
**— Bank**

**(For a CD unit with the custom file function)**

If you label the disc, you can set the unit to skip or play the tracks of your choice.

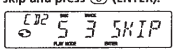
**1 Start playing the disc and press (SHIFT), then press (4) (PLAY MODE) for two seconds.**

**Bank edit mode.**



*Note*
*If you have not labelled the disc, the bank edit mode does not appear. To go back to normal playback mode, press (SHIFT).*

**2 Push the SEEK/AMS control up or down to select the track number you want to skip and press (6) (ENTER).**



The indication changes from "PLAY" to "SKIP." To return the indication to "PLAY," press (6) (ENTER) again.

**3 Repeat step 2 to set "PLAY" or "SKIP" for all the tracks.**

**4 Press (4) (PLAY MODE) for two seconds.**
The unit returns to normal CD playback mode.

**5 Press (SHIFT).**

*Notes*
- *You can set "PLAY" or "SKIP" for up to 24 tracks.*
- *You cannot set "SKIP" for all the tracks on a CD.*



### Playing specific tracks only

You can select:
- BANK-ON - to play the tracks with the "PLAY" setting.
- BANK-INV (Inverse) - to play the tracks with the "SKIP" setting.

**1 During playback, press (SHIFT), then press (4) (PLAY MODE) repeatedly until "BANK" appears.**

**2 Press (5) (→) to repeatedly until the desired setting appears.**

**→ BANK-ON → BANK-INV → BANK-OFF →**

Playback starts from the track following the current one.

**3 Press (SHIFT).**

To return to normal playing mode, select "BANK-OFF" in step 2 above.

# Connections

## Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Connect the power connecting cord ⓨ to the unit and speakers before connecting it to the auxiliary power connector.
- **Run all earth wires to a common earth point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in combination with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.
- Connecting this unit may cause some car battery wear when your car has no ACC (accessory) position on the ignition key switch. In this case, please consult your nearest Sony dealer.

## Notes of connection example

***Notes on the control leads***

- *The power aerial control lead (blue) supplies +12 V DC when you activate the AF (Alternative Frequency) or the TA (Traffic Announcement) function.*
- *A power aerial without a relay box cannot be used with this unit.*

***Warning***

*If you have a power aerial without a relay box, connecting this unit with the supplied power connecting cord ⓨ may damage the aerial.*

***Memory hold connection***

*When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.*

***Notes on speaker connection***

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Be sure to connect passive speakers to these terminals.*

## Reset button

When the installation and connections are complete, be sure to press the reset button with a ballpoint pen, etc.

# Conexiones

## Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Tenga cuidado de no atrapar ningún cable entre algún tornillo y la carrocería del automóvil o esta unidad o entre las partes móviles, como por ejemplo los raíles del asiento, etc.
- Conecte el cable de conexión de alimentación ⓨ a la unidad y los altavoces antes de conectarlo al conector de alimentación auxiliar.
- **Conecte todos los conductores de puesta a masa a un punto común.**
- Conecte el cable amarillo a un circuito libre del automóvil de potencia nominal superior a la del fusible de la unidad. Si conecta esta unidad en combinación con otros componentes estéreo, la potencia nominal del circuito del automóvil a los que dichos componentes estén conectados debe ser superior a la suma de la potencia nominal del fusible de los componentes. Si no existen circuitos de automóvil de potencia nominal tan alta como la del fusible de la unidad, conecte ésta directamente a la batería. Si no hay circuitos de automóvil disponibles para conectar esta unidad, conecte la misma a un circuito de automóvil de potencia nominal superior a la del fusible de la unidad de forma que no se desactiven otros circuitos si el fusible de dicha unidad se funde.
- La conexión de esta unidad puede producir cierta descarga de la batería si el automóvil no dispone de posición ACC (accesorios) en el interruptor de la llave de encendido. En este caso, consulte con el proveedor Sony más próximo.

## Notas de ejemplo de conexiones

***Notas sobre conductores de control***

- *El conductor de control (azul) de la antena motorizada suministra + 12 V CC al activar la función AF (frecuencias alternativas) o TA (anuncios de tráfico).*
- *Con esta unidad no podrá utilizarse una antena motorizada sin caja de relés.*

***Advertencia***

*Si dispone de una antena motorizada sin dispositivo de relé, la conexión de esta unidad con el cable de conexión de alimentación ⓨ suministrado puede dañar la antena.*

***Conexión para protección de la memoria***

*Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición de desactivación.*

***Notas sobre la conexión de los altavoces***

- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 ohmios, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

## Botón de restauración

Cuando finalice la instalación y las conexiones, cerciórese de pulsar el botón de restauración con un bolígrafo, etc.

# Ligações

## Cuidado

- Este aparelho foi concebido para funcionar somente com corrente contínua de 12 V com negativo à massa.
- Tenha cuidado para que os fios não fiquem entalados entre os parafusos e a carroçaria do automóvel ou a caixa do aparelho nem entre as peças móveis, por exemplo, as calhas dos bancos, etc.
- Ligue o cabo de alimentação de corrente ⓨ ao aparelho e aos alifalantes antes de o ligar ao conector de corrente auxiliar.
- **Ligue todos os cabos de massa num ponto de massa comum.**
- Ligue o cabo amarelo a um circuito eléctrico livre do automóvel, cuja potência nominal seja superior à dos fusíveis do aparelho. Se ligar este aparelho em série com outros componentes estéreo, a potência nominal do circuito eléctrico do automóvel onde os ligar tem de ser superior à soma das potência nominal dos fusíveis de todos os componentes individuais. Se não houver nenhum circuito eléctrico do automóvel com uma potência nominal tão elevada como a dos fusíveis do aparelho, ligue-o directamente à bateria. Se não estiver disponível nenhum circuito eléctrico do automóvel para ligação deste aparelho, ligue-o a um circuito eléctrico do automóvel com uma potência nominal superior à dos fusíveis do aparelho, de tal modo que, se o aparelho rebentar os fusíveis respectivos, nenhum outro circuito seja cortado.
- A ligação deste aparelho pode provocar o desgaste da bateria se a chave de ignição do automóvel não tiver a posição ACC (acessórios). Nesse caso, entre em contacto com o agente da Sony mais próximo.

## Notas sobre o exemplo de ligação

***Notas sobre os fios de controlo***

- *O fio de controlo da antena eléctrica (azul) fornece +12 V CC quando activar as funções AF (frequência alternativa) ou TA (informações de trânsito).*
- *Não pode utilizar uma antena eléctrica sem caixa de relé com este aparelho.*

***Atenção***

*Se a antena eléctrica não tiver uma caixa de relé, o facto de ligar este aparelho com a cabo de alimentação ⓨ fornecido, pode provocar danos na antena.*

***Ligação para alimentação contínua da memória***

*Quando o fio amarelo de entrada de alimentação for ligado, os circuitos de memória ficarão com alimentação contínua, mesmo se a chave de ignição estiver desligada.*

***Notas sobre a ligação dos altifalantes***

- *Antes de ligar os altifalantes, desligue o aparelho.*
- *Utilize altifalantes com impedância de 4 a 8 ohm, e com capacidade admissível de potência adequada. Caso contrário, os altifalantes poderão sofrer avarias.*
- *Não ligue os terminais do sistema de altifalantes ao chassis do automóvel, e não ligue os terminais do altifalante direito aos terminais do altifalante esquerdo.*
- *Não tente ligar os altifalantes em paralelo.*
- *Não ligue nenhum sistema de altifalantes activos (com amplificadores incorporados) aos terminais dos altifalantes do aparelho. Caso o faça, poderá avariar o sistema de altifalantes activos. Portanto, não se esqueça de ligar altifalantes passivos a estes terminais.*

## Botão de reinicialização

Depois de completar a instalação e as ligações, tem de carregar no botão de reinicialização com uma esferográfica ou um objecto semelhante.

# Anslutning

## Säkerhetsföreskrifter

- Denna bilstereo är endast avsedd för anslutning till ett negativt jordat, 12 V bilbatteri.
- Var noga med att inga kablar kläms mellan någon skruv eller att de blir klämda mellan rörliga delar som t.ex. bilsätet.
- Anslut strömkabeln ⓨ till enheten och högtalarna innan du ansluter den till den yttre strömanslutning.
- **Dra samtliga jordledningar till en och samma jordningspunkt.**
- Anslut den gula kabeln till en ledig bilkrets med ett högre amperetal än enhetens. Om du seriekopplar enheten till andra stereokomponenter måste den bilkrets de kopplas till ha ett högre amperetal än summan av de enskilda delarnas amperevärde. Om det inte finns några bilkretsar med en så hög amperetal som enhetens ska du ansluta enheten direkt till batteriet. Om inga bilkretsar finns för anslutning till enheten ska du ansluta enheten till en bilkrets med ett högre amperetal än enhetens, så att inga andra kretsar stängs av om enhetens säkring brinner av.
- När du ansluter den här enheten kan det hända att bilbatteriet tar slut snabbare om bilens tändlås saknar det speciella läget för tillbehör, ACC. I så fall bör du ta kontakt med din närmaste Sony-återförsäljare.

## Att observera angående anslutningsexemplen

***Att observera angående de olika styrkablarna***

- *Motorantennens styrkabel (blå) leder + 12 volts likström när mottagning av alternativa frekvenser AF eller mottagning av trafikmeddelanden TA aktiverats.*
- *En motorantenn utan styrreläd osa kan inte anslutas till denna bilstereo.*

***Varning***

*Om du har en motorantenn utan reläd osa kan antennen skadas om du ansluter enheten med den medföljande strömkabeln ⓨ.*

***Anslutning för minnesstöd***

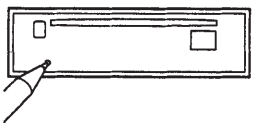
*När du anslutit den gula, ingående strömkabeln försörjs minneskretsen med ström hela tiden, även när tändläset slås ifrån.*

***Att observera angående högtalarnas anslutning***

- *Slå av bilstereon innan du ansluter högtalarna.*
- *Anslut endast högtalare med en impedans mellan 4 och 8 ohm och med tillräcklig effekthanteringskapacitet för att skydda högtalarna mot skador.*
- *Anslut inte något av högtalaruttagen till bilens chassi. Anslut inte heller uttagen på höger högtalare till uttagen på vänster högtalare.*
- *Anslut inte högtalarna parallellt.*
- *Anslut inte aktiva högtalare (med inbyggda slutsteg) till bilstereons högtalaruttag, eftersom de kan skada de aktiva högtalarna. Var noga med att bara ansluta passiva högtalare till dessa uttag.*

## Återställningsknappen

När du har installerat enheten och alla anslutningar är klara, återställer du den genom att trycka på återställningsknappen med t ex en kulspetspenna.



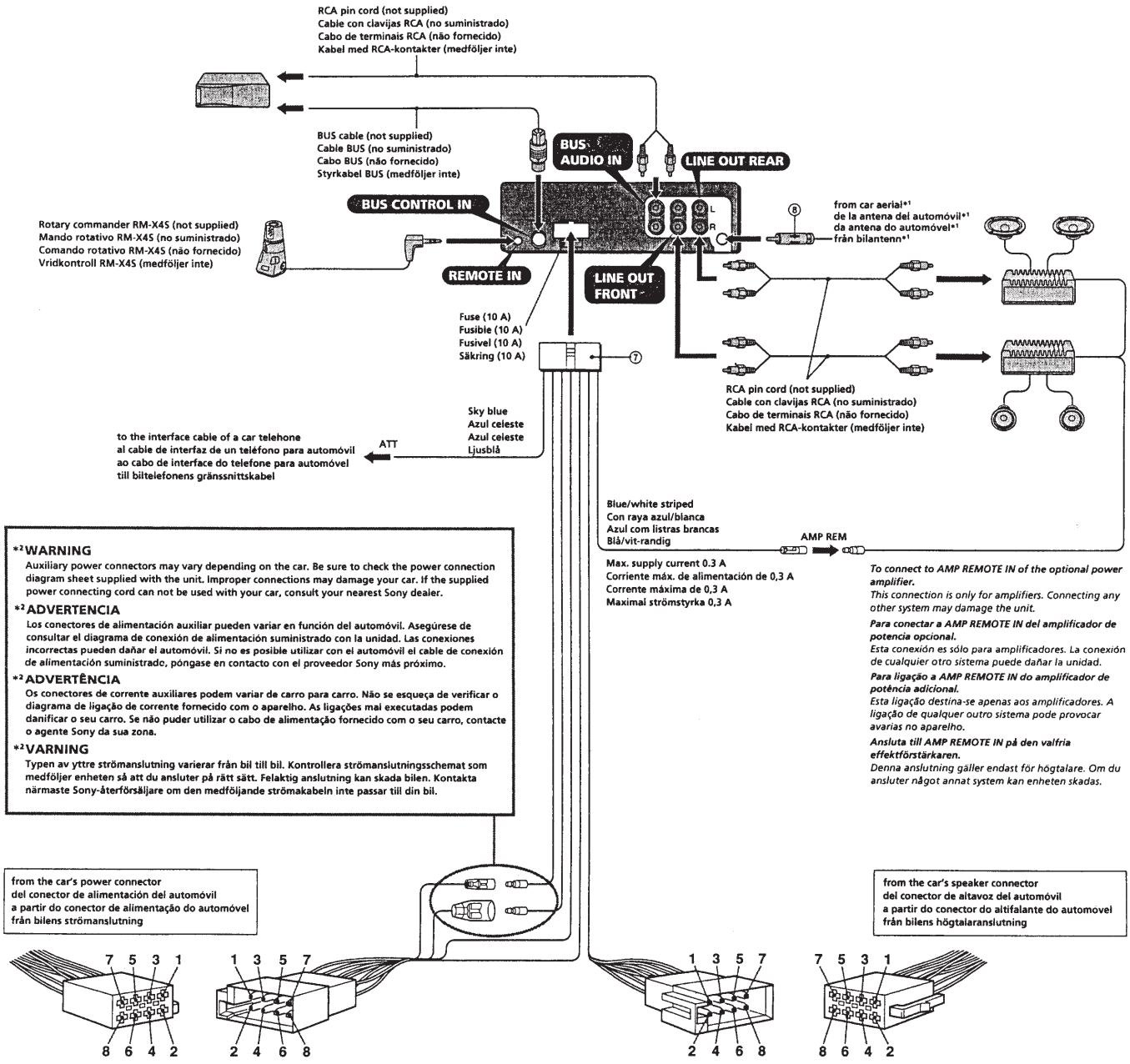
## Connection example
## Ejemplo de conexiones
## Exemplo de ligações
## Anslutningsexempel

*1 *Note for the aerial connecting*
*If your car aerial is an ISO (International Organization for Standardization) type, use the supplied adapter ⑧ to connect it. First connect the car aerial to the supplied adapter, then connect it to the aerial jack of the master unit.*

*1 *Nota sobre la conexión de la antena*
*Si la antena del automóvil es del tipo ISO (International Organization for Standardization), emplee el adaptador suministrado ⑧ para conectarla. En primer lugar, conecte la antena del automóvil al adaptador suministrado y, a continuación, a la toma de antena de la unidad principal.*

*1 *Nota referente à ligação da antena*
*Se a antena do automóvel for uma antena de tipo ISO (International Organization for Standardization), utilize o adaptador fornecido ⑧ para fazer a ligação respectiva. Ligue primeiro a antena do automóvel ao adaptador fornecido e depois à ficha tipo jack de antena do sistema principal.*

*1 *Angående antennanslutning*
*Om motorantennen är av ISO-typ (International Organization for Standardization), använder du medföljande adapter ⑧ för att ansluta den. Anslut först antennen till medföljande adapter och därefter till antennuttaget på huvudenheten.*


RCA pin cord (not supplied)
Cable con clavijas RCA (no suministrado)
Cabo de terminais RCA (não fornecido)
Kabel med RCA-kontakter (medföljer inte)
BUS cable (not supplied)
Cable BUS (no suministrado)
Cabo BUS (não fornecido)
Styrkabel BUS (medföljer inte)
BUS AUDIO IN
LINE OUT REAR
BUS CONTROL IN
Rotary commander RM-X4S (not supplied)
Mando rotativo RM-X4S (no suministrado)
Comando rotativo RM-X4S (não fornecido)
Vridkontroll RM-X4S (medföljer inte)
REMOTE IN
LINE OUT FRONT
from car aerial*1
de la antena del automóvil*1
da antena do automóvel*1
från bilantenn*1
Fuse (10 A)
Fusible (10 A)
Fusível (10 A)
Säkring (10 A)
RCA pin cord (not supplied)
Cable con clavijas RCA (no suministrado)
Cabo de terminais RCA (não fornecido)
Kabel med RCA-kontakter (medföljer inte)
Sky blue
Azul celeste
Azul celeste
Ljusblå
ATT
to the interface cable of a car telehone
al cable de interfaz de un teléfono para automóvil
ao cabo de interface do telefone para automóvel
till biltelefonens gränssnittskabel
Blue/white striped
Con raya azul/blanca
Azul com listras brancas
Blå/vit-randig
AMP REM
Max. supply current 0.3 A
Corriente máx. de alimentación de 0,3 A
Corrente máxima de 0,3 A
Maximal strömstyrka 0,3 A
from the car's power connector
del conector de alimentación del automóvil
a partir do conector de alimentação do automóvel
från bilens strömanslutning
from the car's speaker connector
del conector de altavoz del automóvil
a partir do conector do altifalante do automovel
från bilens högtalaranslutning
7 5 3 1
8 6 4 2
1 3 5 7
2 4 6 8
1 3 5 7
2 4 6 8
7 5 3 1
8 6 4 2

*To connect to AMP REMOTE IN of the optional power amplifier.*
*This connection is only for amplifiers. Connecting any other system may damage the unit.*

***Para conectar a AMP REMOTE IN del amplificador de potencia opcional.***
*Esta conexión es sólo para amplificadores. La conexión de cualquier otro sistema puede dañar la unidad.*

***Para ligação a AMP REMOTE IN do amplificador de potência adicional.***
*Esta ligação destina-se apenas aos amplificadores. A ligação de qualquer outro sistema pode provocar avarias no aparelho.*

***Ansluta till AMP REMOTE IN på den valfria effektförstärkaren.***
*Denna anslutning gäller endast för högtalare. Om du ansluter något annat system kan enheten skadas.*

***2 WARNING**
Auxiliary power connectors may vary depending on the car. Be sure to check the power connection diagram sheet supplied with the unit. Improper connections may damage your car. If the supplied power connecting cord can not be used with your car, consult your nearest Sony dealer.

***2 ADVERTENCIA**
Los conectores de alimentación auxiliar pueden variar en función del automóvil. Asegúrese de consultar el diagrama de conexión de alimentación suministrado con la unidad. Las conexiones incorrectas pueden dañar el automóvil. Si no es posible utilizar con el automóvil el cable de conexión de alimentación suministrado, póngase en contacto con el proveedor Sony más próximo.

***2 ADVERTÊNCIA**
Os conectores de corrente auxiliares podem variar de carro para carro. Não se esqueça de verificar o diagrama de ligação de corrente fornecido com o aparelho. As ligações mal executadas podem danificar o seu carro. Se não puder utilizar o cabo de alimentação fornecido com o seu carro, contacte o agente Sony da sua zona.

***2 VARNING**
Typen av yttre strömanslutning varierar från bil till bil. Kontrollera strömanslutningsschemat som medföljer enheten så att du ansluter på rätt sätt. Felaktig anslutning kan skada bilen. Kontakta närmaste Sony-återförsäljare om den medföljande strömkabeln inte passar till din bil.

| | | | | | |
|---|---|---|---|---|---|
| 4*2 | Yellow<br>Amarillo<br>Amarelo<br>Gul | continuous power supply<br>suministro de alimentación continua<br>alimentação de corrente contínua<br>kontinuerlig strömförsörjning | 7*2 | Red<br>Rojo<br>Vermelho<br>Röd | switched power supply<br>suministro conmutado de alimentación<br>alimentação de corrente comutada<br>switchad strömförsörjning |
| 5 | Blue<br>Azul<br>Azul<br>Blå | power aerial control<br>control de antena motorizada<br>antena eléctrica<br>ström till antennstyrning | 8 | Black<br>Negro<br>Preto<br>Svart | earth<br>toma de tierra<br>Terra<br>jord |
| 6 | Orange/ White<br>Naranja/ blanco<br>Cor de laranja/ branco<br>Orange/ vit | switched illumination power supply<br>fuente de alimentación de iluminación conmutada<br>fonte de alimentação comutada para iluminação<br>switchad strömförsörjning till belysning | | | |

*Positions 1, 2 and 3 do not have pins.*
*Las posiciones 1, 2 y 3 no disponen de pines.*
*As posições 1, 2 e 3 não têm pinos.*
*Positionerna 1, 2 och 3 saknar stift.*

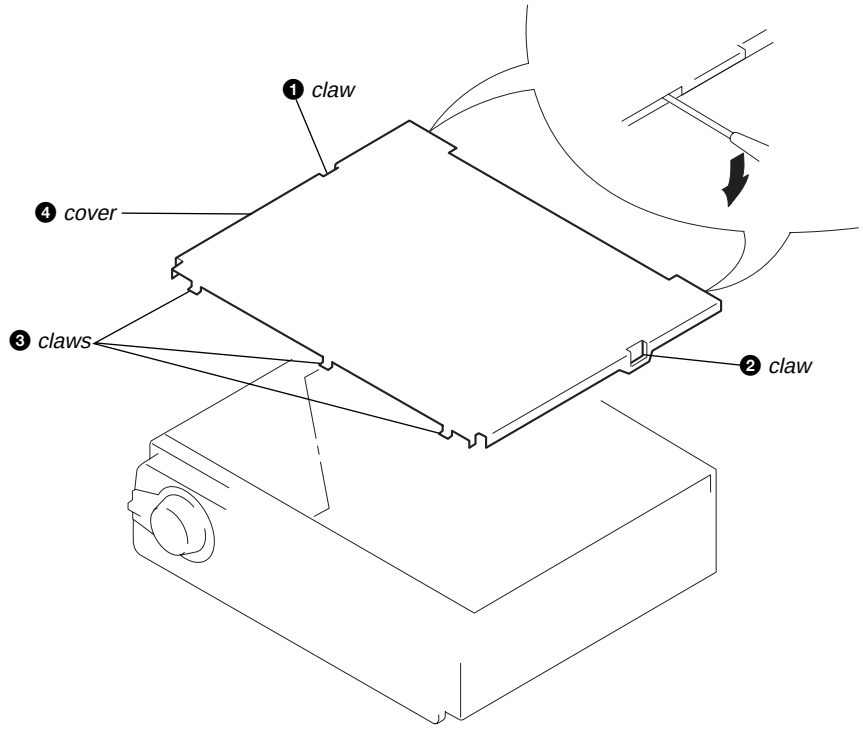
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Purple<br>Púrpura<br>Violeta<br>Violett | + | Speaker, Rear, Right<br>Altavoz, Parte posterior, Derecho<br>Altifalante, Parte de trás, Direito<br>Högtalare, Bakre, Höger | 5 | White<br>Blanco<br>Branco<br>Vit | + | Speaker, Front, Left<br>Altavoz, Parte frontal, Izquierdo<br>Altifalante, Parte da frente, Esquerdo<br>Högtalare, Främre, Vänster |
| 2 | | – | Speaker, Rear, Right<br>Altavoz, Parte posterior, Derecho<br>Altifalante, Parte de trás, Direito<br>Högtalare, Bakre, Höger | 6 | | – | Speaker, Front, Left<br>Altavoz, Parte frontal, Izquierdo<br>Altifalante, Parte da frente, Esquerdo<br>Högtalare, Främre, Vänster |
| 3 | Grey<br>Gris<br>Cinza<br>Grå | + | Speaker, Front, Right<br>Altavoz, Parte frontal, Derecho<br>Altifalante, Parte da frente, Direito<br>Högtalare, Främre, Höger | 7 | Green<br>Verde<br>Verde<br>Grön | + | Speaker, Rear, Left<br>Altavoz, Parte posterior, Izquierdo<br>Altifalante, Parte de trás, Esquerdo<br>Högtalare, Bakre, Vänster |
| 4 | | – | Speaker, Front, Right<br>Altavoz, Parte frontal, Derecho<br>Altifalante, Parte da frente, Direito<br>Högtalare, Främre, Höger | 8 | | – | Speaker, Rear, Left<br>Altavoz, Parte posterior, Izquierdo<br>Altifalante, Parte de trás, Esquerdo<br>Högtalare, Bakre, Vänster |

*Negative polarity positions 2, 4, 6, and 8 have striped cords.*
*Las posiciones de polaridad negativa 2, 4, 6 y 8 tienen cables con raya.*
*As posições 2, 4, 6 e 8 (polaridade negativa) têm cabos às riscas.*
*De negativa polpositionerna 2, 4, 6 och 8 har randiga kablar.*

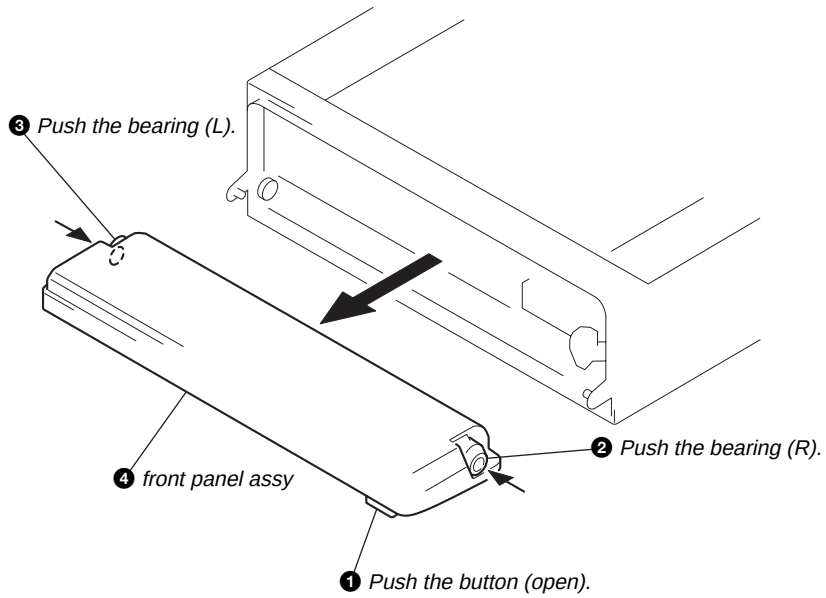
# SECTION 2
# DISASSEMBLY

**Note :** Follow the disassembly procedure in the numerical order given.

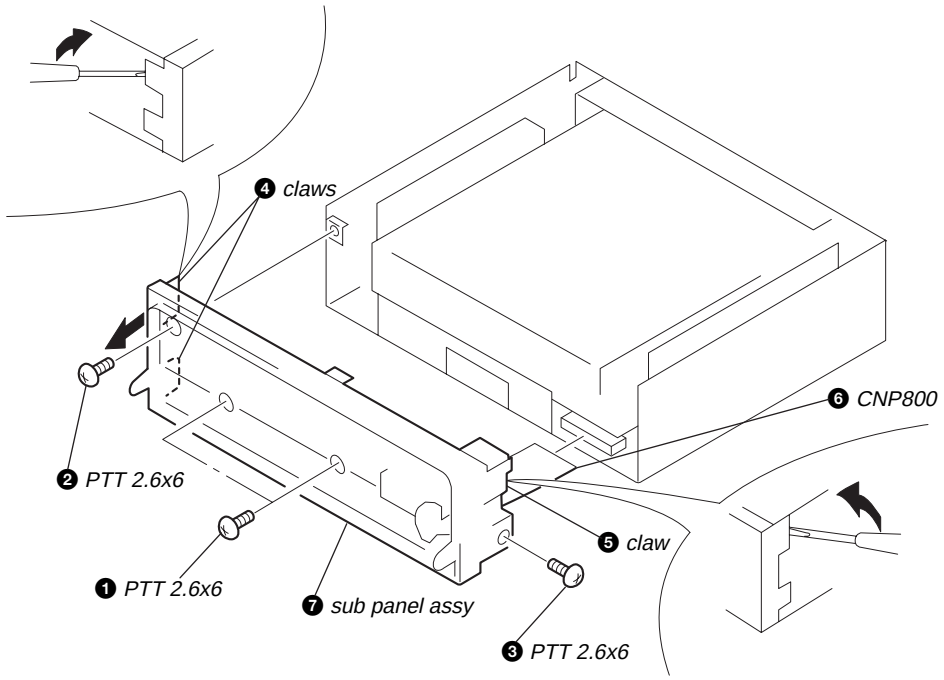
## 2-1. COVER



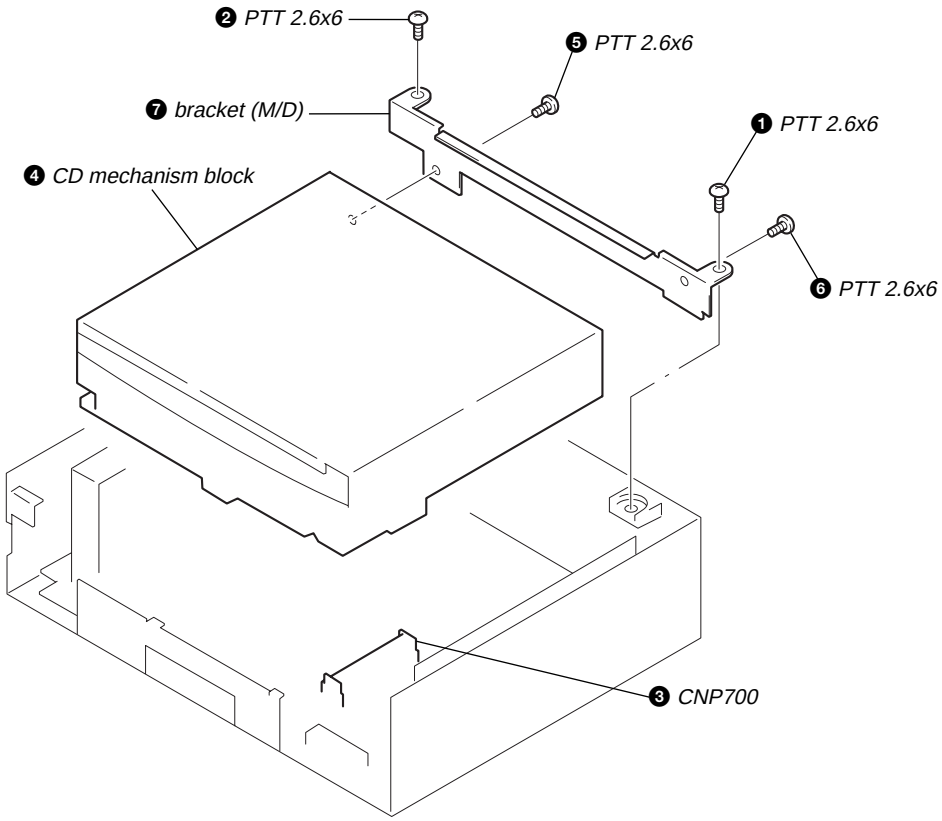

## 2-2. FRONT PANEL ASSY



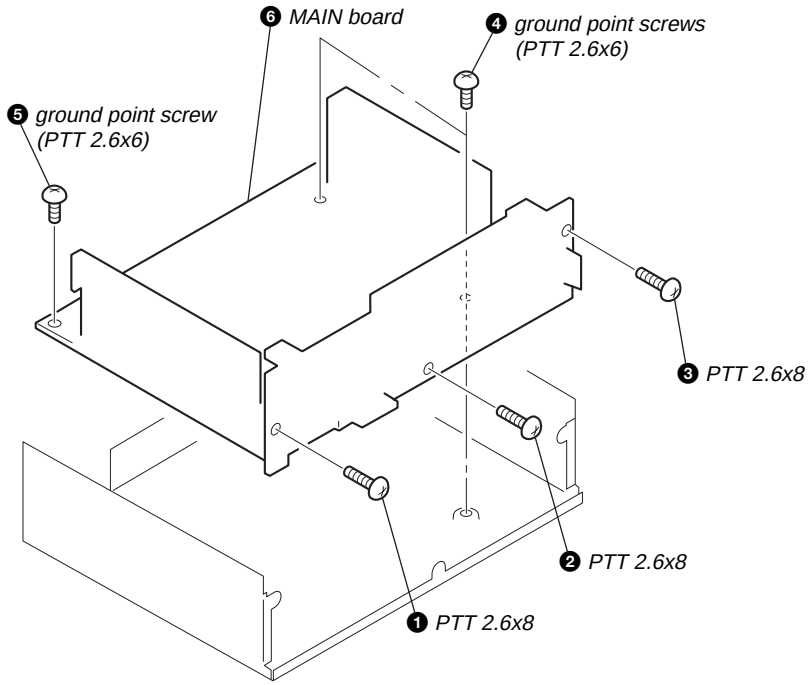
## 2-3. SUB PANEL ASSY



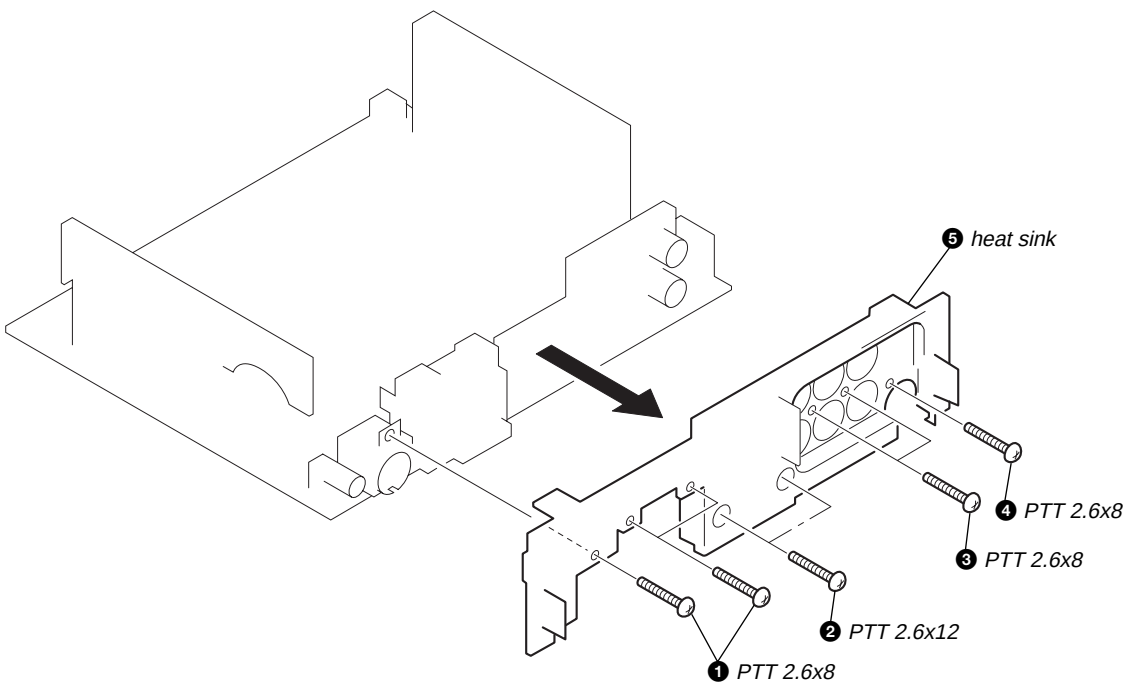

## 2-4. CD MECHANISM BLOCK



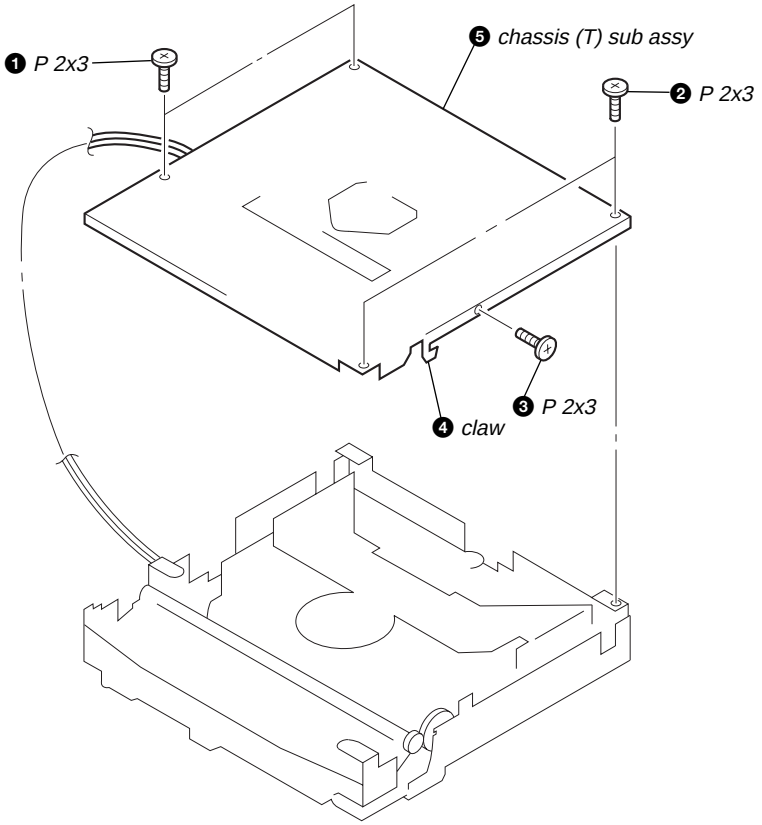
## 2-5. MAIN BOARD



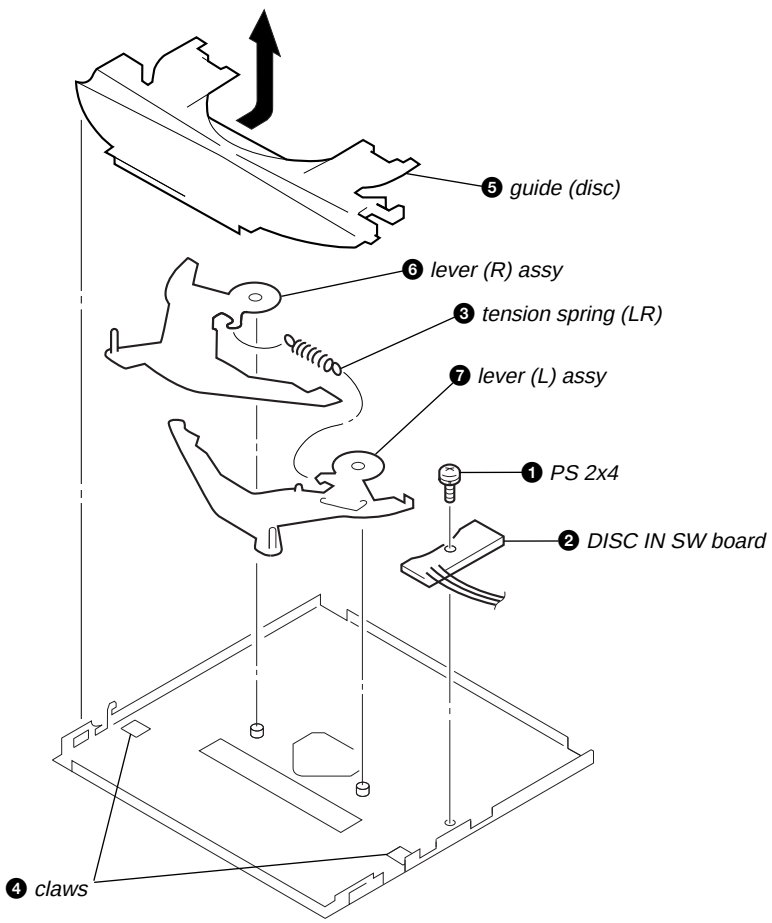

## 2-6. HEAT SINK



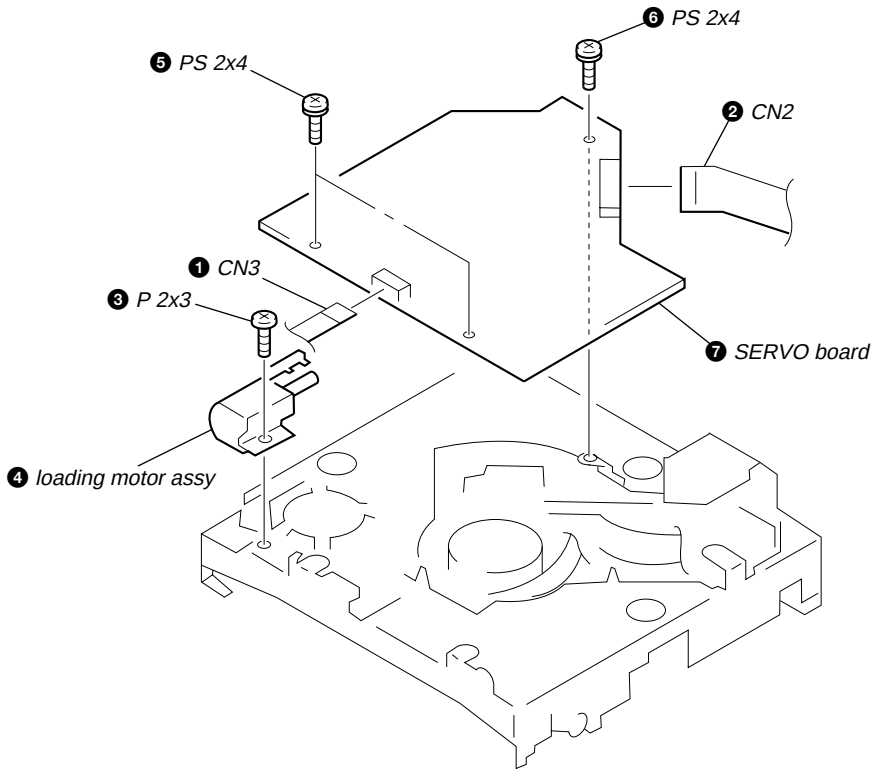
## 2-7. CHASSIS (T) SUB ASSY




## 2-8. LEVER ASSY



## 2-9. SERVO BOARD




## 2-10. ROLLER ASSY

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

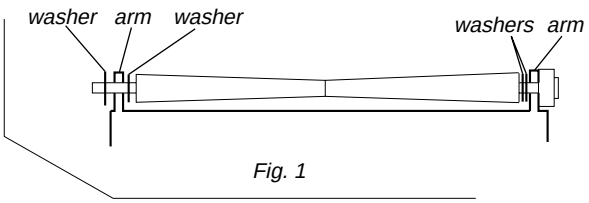
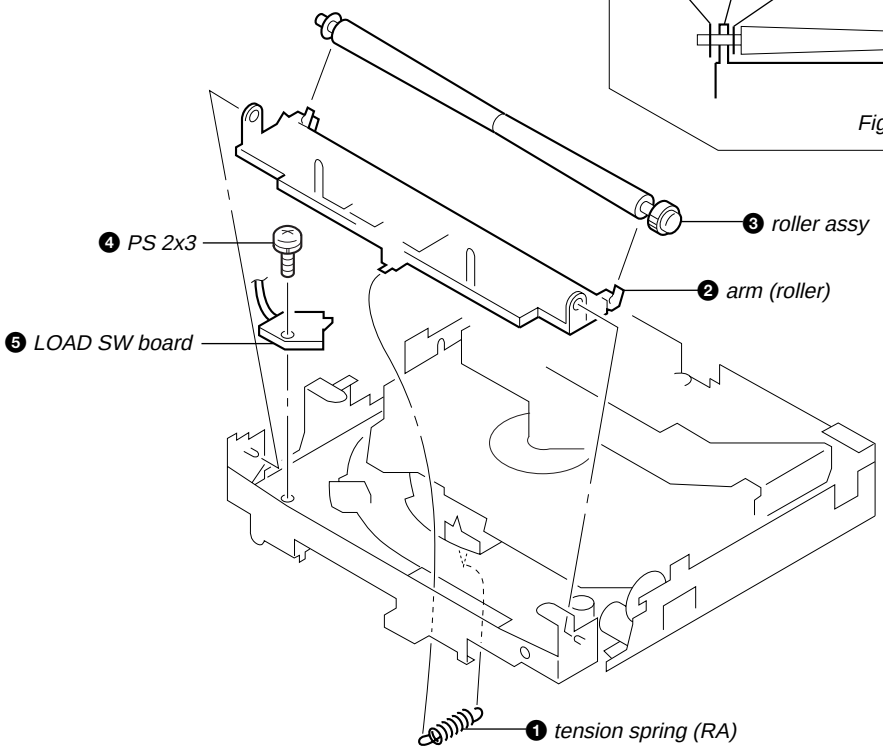
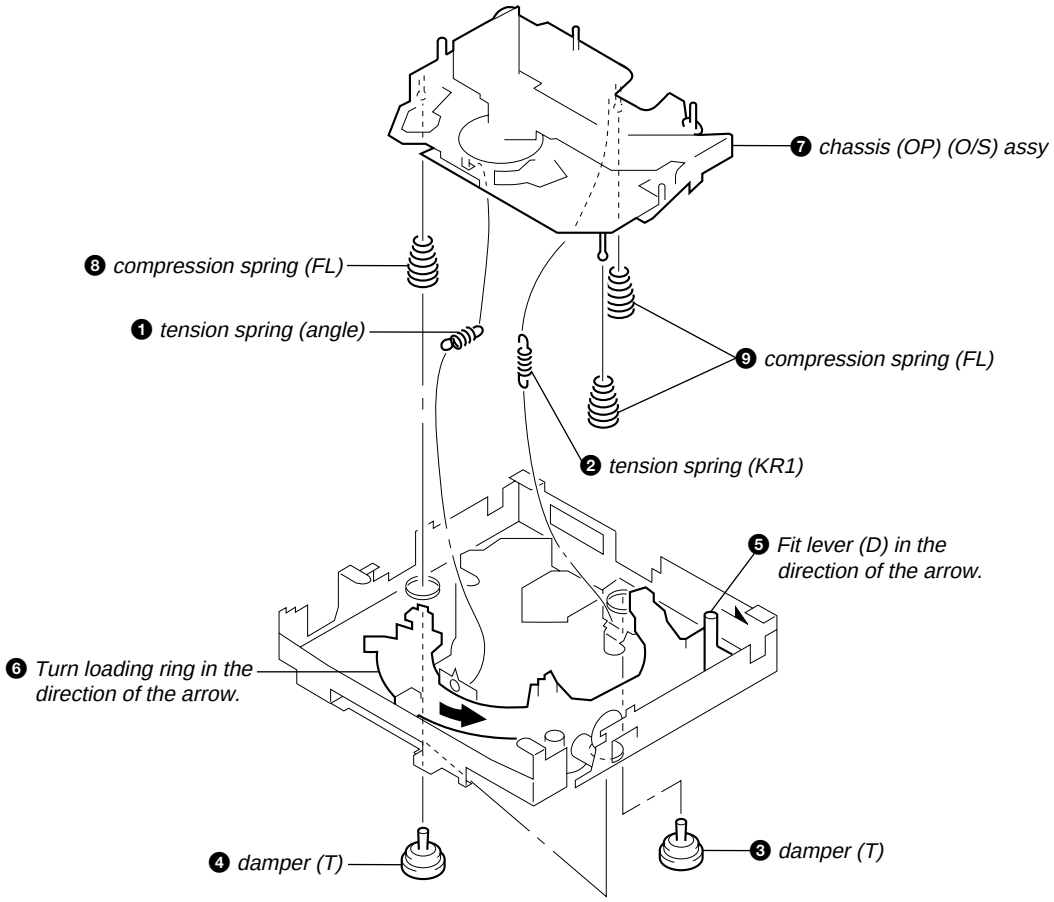


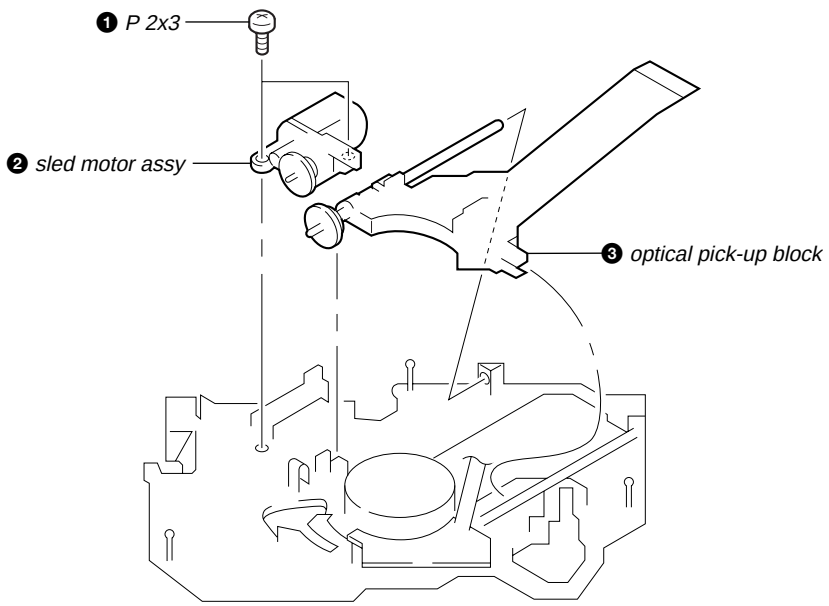

Fig. 1



## 2-11. CHASSIS (OP) (O/S) ASSY


❼ chassis (OP) (O/S) assy
❽ compression spring (FL)
❶ tension spring (angle)
❾ compression spring (FL)
❷ tension spring (KR1)
❺ Fit lever (D) in the direction of the arrow.
❻ Turn loading ring in the direction of the arrow.
❹ damper (T)
❸ damper (T)

## 2-12. OPTICAL PICK-UP BLOCK



# SECTION 3
# ELECTRICAL ADJUSTMENTS

**TUNER SECTION** **0 dB = 1 μV**

**Cautions during repair**
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

## TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and MW Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>
1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test Mode>
1. Push the [OFF] button.

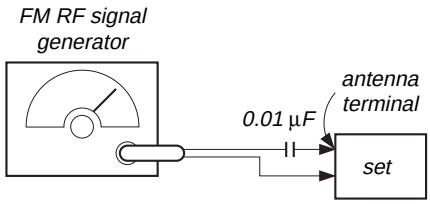
### Note on Adjustment

The adjustments of tuner section, should be performed according to the following sequence.
1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. FM RDS S-Meter Adjustment
4. MW Auto Scan/Stop Level Adjustment

### FM Auto Scan/Stop Level Adjustment

**Setting :**

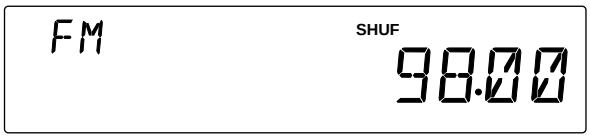
D-BASS switch : OFF
SOURCE button : FM




*Carrier frequency : 98.00 MHz*
*Output level : 22 dB (12.6 μV)*
*Mode : mono*
*Modulation : 1 kHz, 22.5 kHz deviation (30%)*

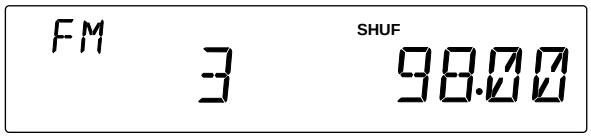
**Procedure :**
1. Set to the test mode.
2. Push the [SOURCE] button and set to FM.

Display



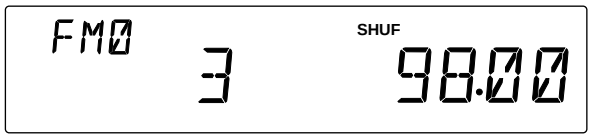

3. Push the preset [3] button.

Display




4. Adjust with the volume RV2 on TU601 so that the "FM" indication turns to "FM0" indication on the display window. But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

Display

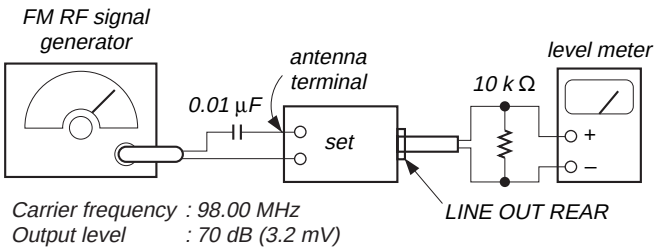



**Adjustment Location :** See page 20.

### FM Stereo Separation Adjustment

**Setting :**

D-BASS switch : OFF
SOURCE button : FM




*Carrier frequency : 98.00 MHz*
*Output level : 70 dB (3.2 mV)*
*Mode : stereo*
*Modulation : main : 1 kHz, 20 kHz deviation (26.5%)*
*sub : 1 kHz, 20 kHz deviation (26.5%)*
*19 kHz pilot : 7.5 kHz deviation (10%)*

**Procedure :**

| FM stereo signal generator output channel | Level meter connection | Level meter reading (dB) |
|---|---|---|
| L-CH | L-CH | Ⓐ |
| R-CH | L-CH | Ⓑ Adjust RV4 on TU601 for nimum reading. |
| R-CH | R-CH | Ⓒ |
| L-CH | R-CH | Ⓓ Adjust RV4 on TU601 for minimum reading. |

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

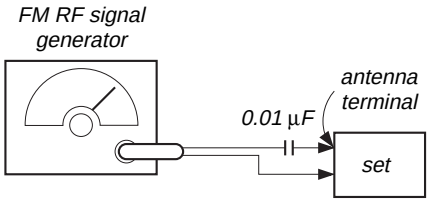
**Specification :** Separation more than 28 dB

**Adjustment Location :** See page 20.

### FM RDS S-Meter Adjustment

**Setting :**

D-BASS switch : OFF
SOURCE button : FM

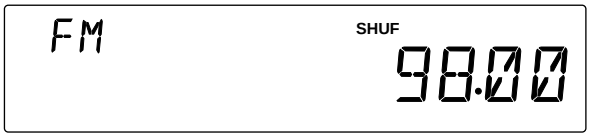



*Carrier frequency : 98.00 MHz*
*Output level : 35 dB (56.2 µV)*
*Mode : mono*
*Modulation : no modulation*

**Procedure :**

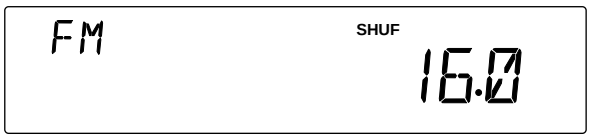
1. Set to the test mode. (See page 18.)
2. Push the SOURCE button and set to FM.

Display




3. Push the preset 10 button.
4. Adjust RV801 so that the display indication is “16.0”.

Display



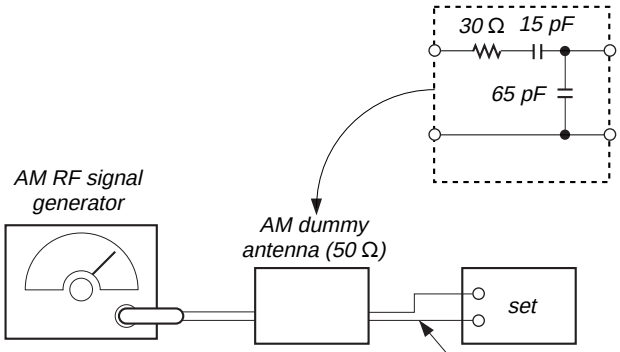

**Specification :** Display indication : 15.8 to 16.2

**Adjustment Location :** See page 20.

### MW Auto Scan/Stop Level Adjustment

**Setting :**

D-BASS switch : OFF
SOURCE → MODE button : MW

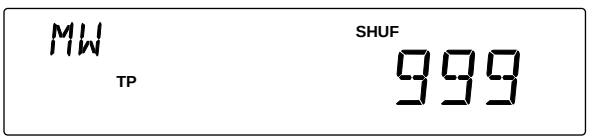



*Carrier frequency : 999 kHz*
*30% amplitude modulation by 1 kHz signal*
*output level : 33 dB (44.7 µV)*

**Procedure :**

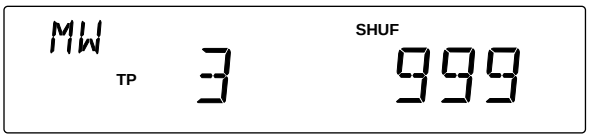
1. Set to the test mode. (See page 18.)
2. Push the [SOURCE] button.
3. Push the [MODE] button and set to MW.

Display



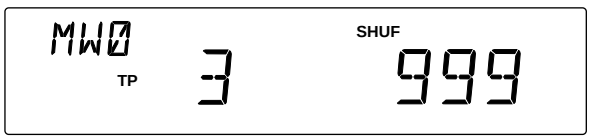

4. Push the preset [3] button.

Display



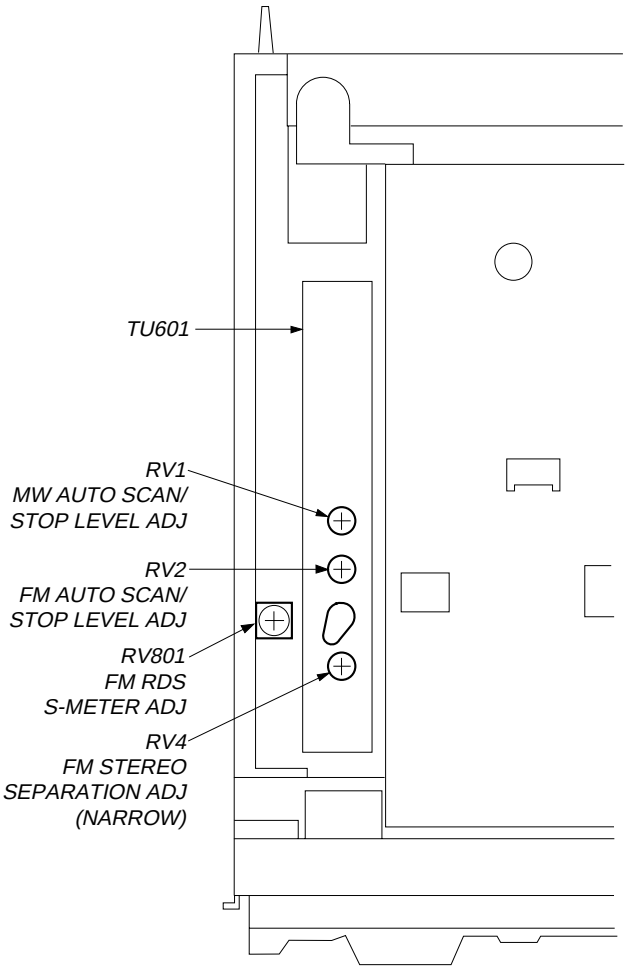

5. Adjust with the volume RV1 on TU601 so that the “MW” indication turns to “MW0” indication on the display window. But, in case of already indicated “MW0”, turn the RV1 so that put out light “0” indication and adjustment.

Display




**Adjustment Location :** tuner unit (TU601)

**Adjustment Location :** tuner unit (TU601)

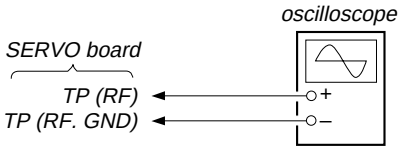


## CD SECTION

**Note:**
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

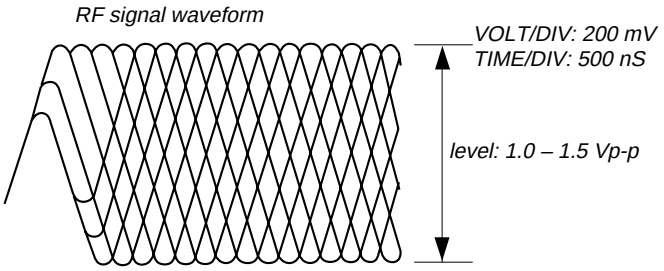
### Focus Bias Adjustment

**Setting:** This adjustment is performed with the set placed horizontally.




**Procedure:**
1. Connect an oscilloscope between TP (RF) and TP (RF. GND) on the SERVO board.
2. Connect the power supply.
3. Push the RESET button (S900) on the MAIN board.
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

**Note:** Clear RF signal waveform means that the sharp "≈ " can be clearly distinguished at the center of the waveform.




- When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

**Adjustment Location:** servo board

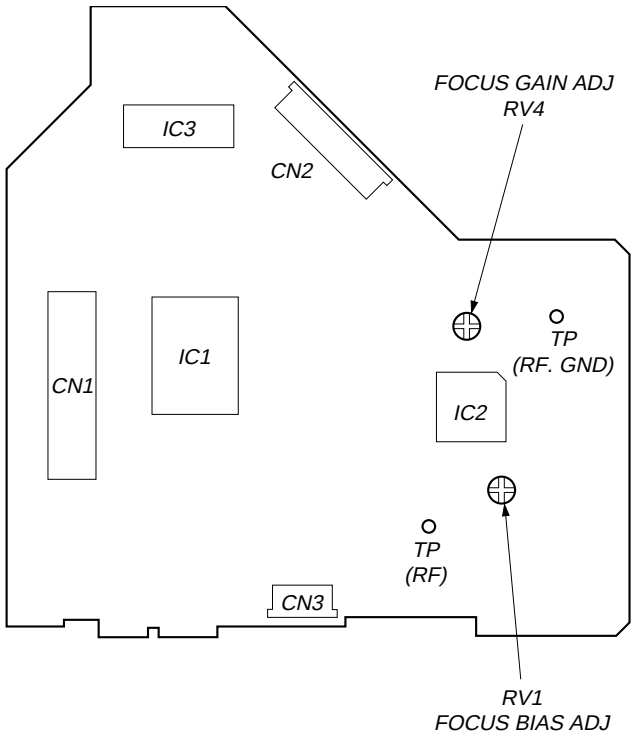
### Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:
- Optical pick-up
- RV4

**Procedure:**
1. Set RV4 to the standard position. (mechanical center)
2. Check whether operation noise (while noise type) caused by the 2-axis device (lens section of the optical pick-up) is abnormally loud.
   If the operation noise is too loud, turn RV4 slightly counter-clockwise.
- If the gain is too low:
  Focus does not function and no music is selected.
- If the gain is too high:
  Noise caused by scratches and dust is heard and the operation becomes unstable.

**Adjustment Location:** servo board

**Adjustment Location:** servo board (component side)



# SECTION 4
# DIAGRAMS

## 4-1. IC PIN DESCRIPTION

**• IC801 MB90574APMT-G-200-BND (SYSTEM CONTROL)**

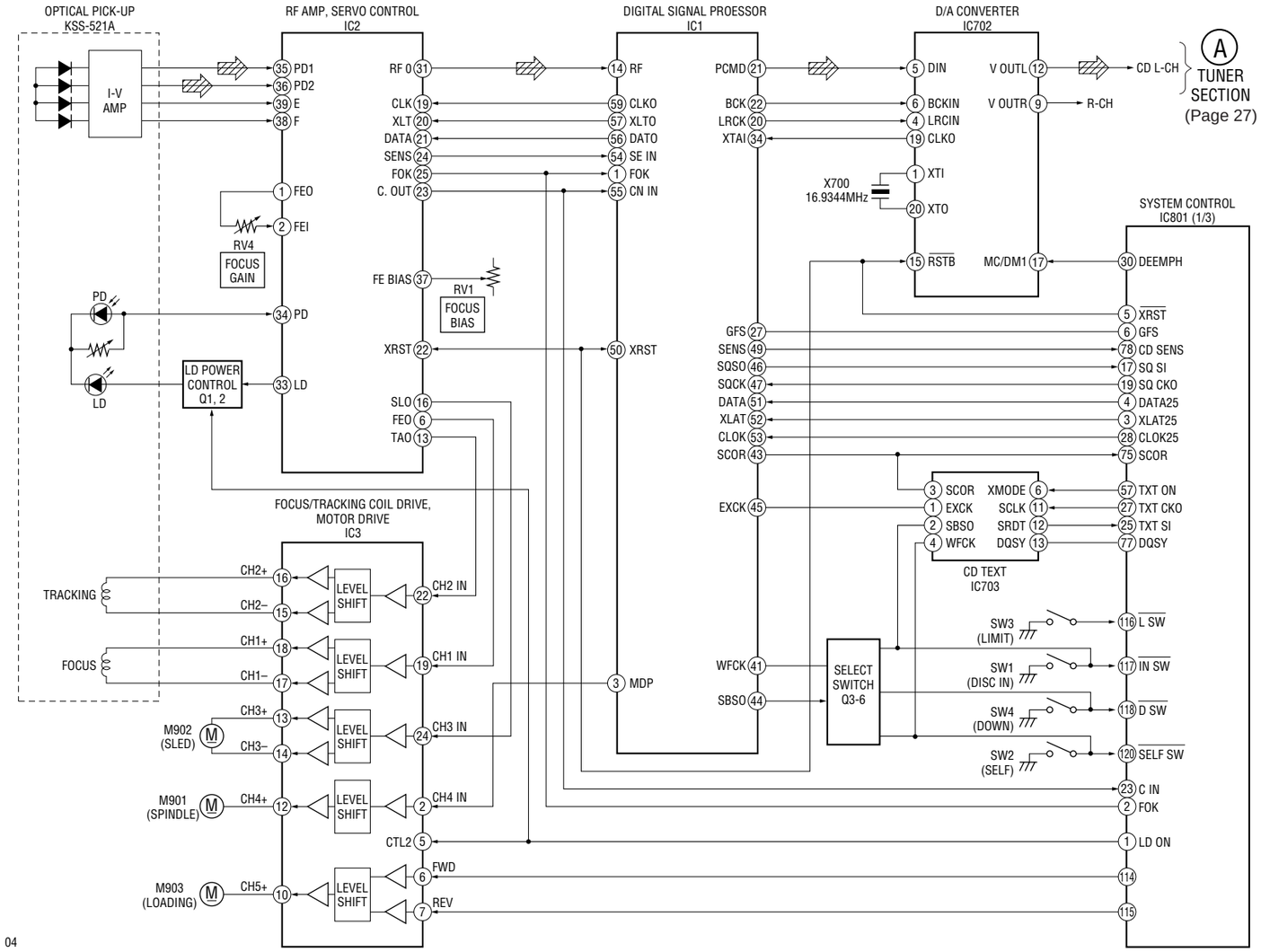
| Pin No. | Pin Name | I/O | Pin Description |
|---|---|---|---|
| 1 | $\overline{\text{LD ON}}$ | O | Laser ON/OFF control output |
| 2 | FOK | I | Focus OK signal detection input |
| 3 | XLAT25 | O | CD signal processing latch output |
| 4 | DATA25 | O | CD signal serial data output |
| 5 | $\overline{\text{XRST}}$ | O | Reset output to CD signal processor IC. |
| 6 | GFS | I | GFS signal detection input |
| 7 | NIL | — | Not used. (Connect to ground in this set.) |
| 8 | VCC | — | Power supply pin (+5 V) |
| 9 – 11 | NIL | — | Not used. (Open) |
| 12 | FLS SI/$\overline{\text{NOSE1}}$ | I | Front panel attachment detection input |
| 13 | LCD SO/FLS SO | O | LCD serial data output |
| 14 | LCD CKO | O | LCD serial clock output |
| 15 | BEEP | O | BEEP output |
| 16 | NIL | — | Not used. (Open) |
| 17 | SQ SI | I | Sub Q data input |
| 18 | NIL | — | Not used. (Connect to ground in this set.) |
| 19 | SQ CKO | O | Sub Q read clock output |
| 20 | UNI SI | I | BUS system serial interface input |
| 21 | UNI SO | O | BUS system serial interface output |
| 22 | UNI CK | I/O | BUS system serial clock input/output |
| 23 | C IN | I | Track jump No. count input |
| 24 | SIRCS | I | Remote commander input |
| 25 | TXT SI | I | CD-TEXT data input |
| 26 | NIL | — | Not used. (Connect to ground in this set.) |
| 27 | TXT CKO | O | CD-TEXT data read clock output |
| 28 | CLOK25 | O | CD signal processing serial clock output |
| 29 | $\overline{\text{SYSRST}}$ | O | System reset output |
| 30 | DEEMPH | O | De-emphasis output |
| 31 | $\overline{\text{AMP ATT}}$ | O | Power amplifier attenuator control output |
| 32 | MD ON | O | CD mechanism power control output |
| 33 | VSS | — | Ground |
| 34 | C | — | Power stabilization capacitor pin |
| 35 | CD ON | O | CD power control output |
| 36 | $\overline{\text{BUS ON}}$ | O | BUS ON control output |
| 37 | NIL | O | Power control output of A/D conversion. |
| 38 | DVCC | — | VREF input of D/A converter. |
| 39 | DVSS | — | Ground of D/A converter. |
| 40 | NIL | — | Not used. (Open) |
| 41 | ANGLE | O | LCD view angle alignment output (Not used in this set.) |
| 42 | AVCC | — | Analog power supply pin (+5 V) |
| 43 | AVRH | — | VREF + input of A/D converter. |
| 44 | AVRL | — | VREF – input of A/D converter. |
| 45 | AVSS | — | Analog ground |
| 46 – 48 | KEY IN0 – 2 | I | Key input 0 – 2 |
| 49 | RC IN0 | I | Rotary commander input 0 |
| 50 | QUALITY | I | Noise detection input |
| 51 | NIL | — | Not used. (Connect to ground in this set.) |
| 52 | MPDH | I | Tuner multi path input |
| 53 | S-METER | I | S-meter voltage detection input |
| 54 | VCC | — | Power supply pin (+5 V) |
| 55 | NS MASK | O | Noise detection output |

| Pin No. | Pin Name | I/O | Pin Description |
|---|---|---|---|
| 56 | AMP ON | O | Power amplifier power control output |
| 57 | TXT ON | O | Reset output to CD-TEXT decoder IC. |
| 58 | $\overline{\text{VOL ATT}}$ | O | Electric volume mute control output |
| 59 | NIL | — | Not used. (Open) |
| 60 | ATT | O | System attenuate control output |
| 61 | $\overline{\text{RC IN1}}$ | I | Rotary commander shift key input 1 |
| 62 | TU ATT | O | Tuner attenuate output |
| 63 | VSS | — | Ground |
| 64 | NIL | — | Not used. (Open) |
| 65 | SSTOP | I | IF counter result signal detection input of PLL. |
| 66 | $\overline{\text{TEST}}$ | I | Test mode initial setting detection input |
| 67 | DAVN | I | RDS IC data acquisition detection input |
| 68 | FM ON/$\overline{\text{AM ON}}$ | O | FM ON output |
| 69 | TU ON | O | Tuner power control output |
| 70 | SDA | I/O | I²C BUS serial data input/output |
| 71 | SCL | O | I²C BUS serial clock output |
| 72 | $\overline{\text{NOSE2}}$ | I | Front panel OPEN detection input |
| 73 | X1A | O | Sub ceramic oscillator output (32 kHz) |
| 74 | X0A | I | Sub ceramic oscillator input (32 kHz) |
| 75 | SCOR | I | SCOR signal detection input |
| 76 | BU IN | I | Backup power detection input |
| 77 | DQSY | I | CD-TEXT data setting completion signal detection input |
| 78 | CD SENS | I | CD SENS signal detection input |
| 79 | NIL | I | Key input acknowledge |
| 80 | TEL ATT | I | Telephone attenuate detection input |
| 81 | ST/MONO | I/O | Tuner stereo signal detection input/forced monaural output |
| 82 | $\overline{\text{SEEKOUT}}$ | O | SEEK output |
| 83 | SD IN | I | Signal detector input |
| 84 | WIDE | O | WIDE select output |
| 85 | NARROW | O | NARROW select output |
| 86 | HSTX | — | Hardware standby input (Connect to pin ⑨⓪ (RESET).) |
| 87 | MD2 | — | Operation mode input (Connect to ground in this set.) |
| 88, 89 | MD1, 0 | — | Operation mode input (Connect to VCC in this set.) |
| 90 | $\overline{\text{RESET}}$ | I | Reset input |
| 91 | VSS | — | Ground |
| 92 | X0 | I | Main ceramic oscillator input (4.19 MHz) |
| 93 | X1 | O | Main ceramic oscillator output (4.19 MHz) |
| 94 | VCC | — | Power supply pin (+5 V) |
| 95 | COM8V ON | O | COM 8V control output |
| 96 | NIL | — | Not used. (Open) |
| 97 | AREA1 | I | Destination select input 1 (Fixed at “L” in this set.) |
| 98 | AREA2 | I | Destination select input 2 (Fixed at “L” (AEP, UK model) or “H” (German model) in this set.) |
| 99 | LOUD | I | Fixed at “L” in this set. |
| 100 | BAND | I | Fixed at “H” in this set. |
| 101 | $\overline{\text{ACC IN}}$ | I | Accessory power detection input |
| 102, 103 | PH3, 2 | I | Disc insertion detection photo sensor input (Fixed at “H” in this set.) |
| 104 | LCD CE | O | LCD chip enable output |
| 105 | $\overline{\text{FLS W}}$ | I | Flash write input (Fixed at “H” in this set.) |
| 106, 107 | RE IN0, 1 | I | Rotary encoder input |
| 108 | ILL ON | O | Illumination power control output |
| 109 | PW ON | O | System power control output |
| 110 | NIL | — | Not used. (Open) |



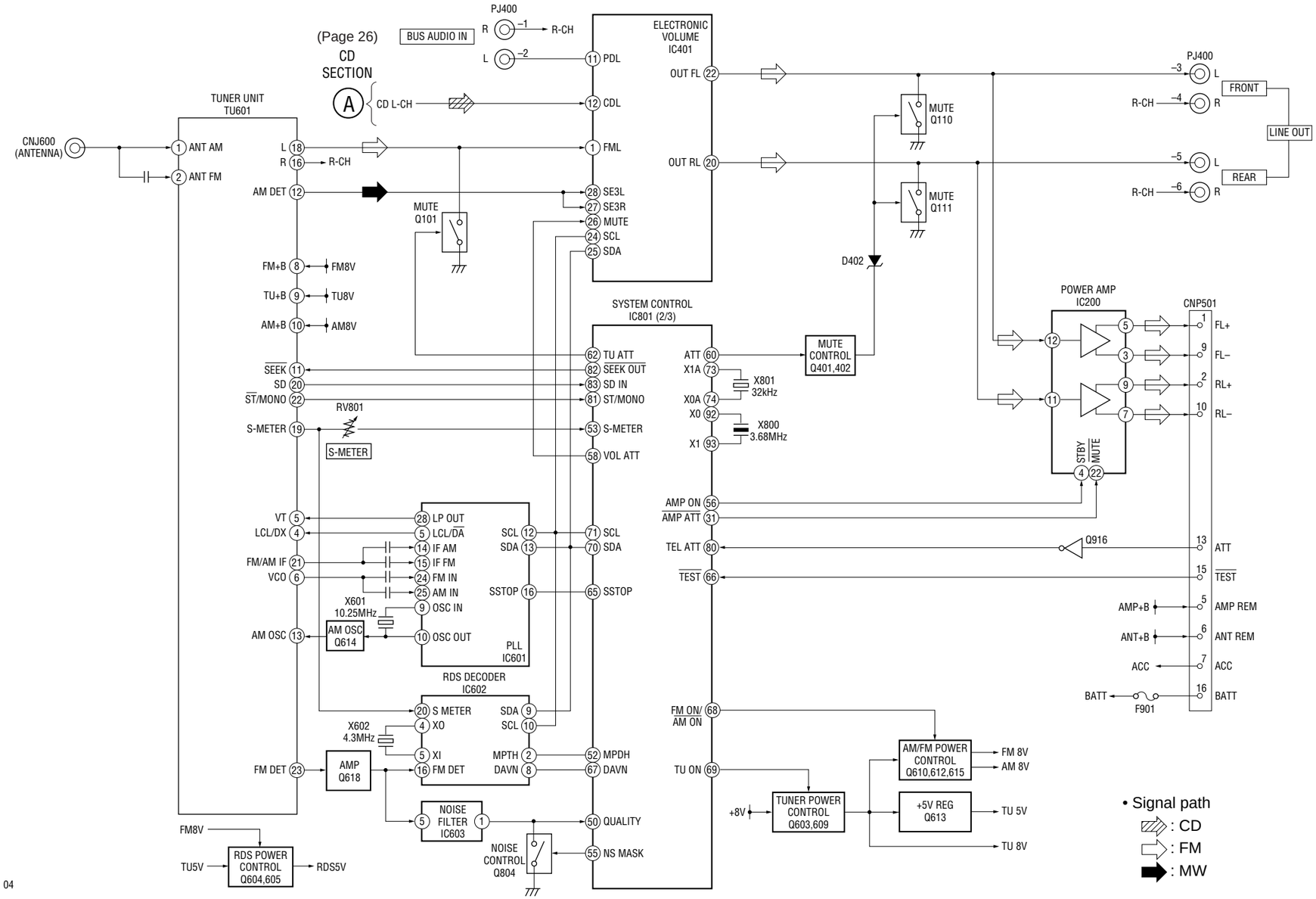
| Pin No. | Pin Name | I/O | Pin Description |
|---|---|---|---|
| 111 | ANT REM | O | ANT REMOTE power control output |
| 112 | NIL | — | Not used. (Open) |
| 113 | CTL2 | — | Not used in this set. |
| 114 | CD LD | O | Loading motor control output (Loading direction) |
| 115 | CD EJ | O | Loading motor control output (Eject direction) |
| 116 | $\overline{\text{L SW}}$ | I | Sled limit switch detection input |
| 117 | $\overline{\text{IN SW}}$/(PH1) | I | Disc insertion detection input |
| 118 | $\overline{\text{D SW}}$ | I | DOWN switch detection input |
| 119 | VSS | — | Ground |
| 120 | $\overline{\text{SELF SW}}$/(IN SW) | I | Disc self store detection input |

## 4-2. BLOCK DIAGRAM — CD SECTION —



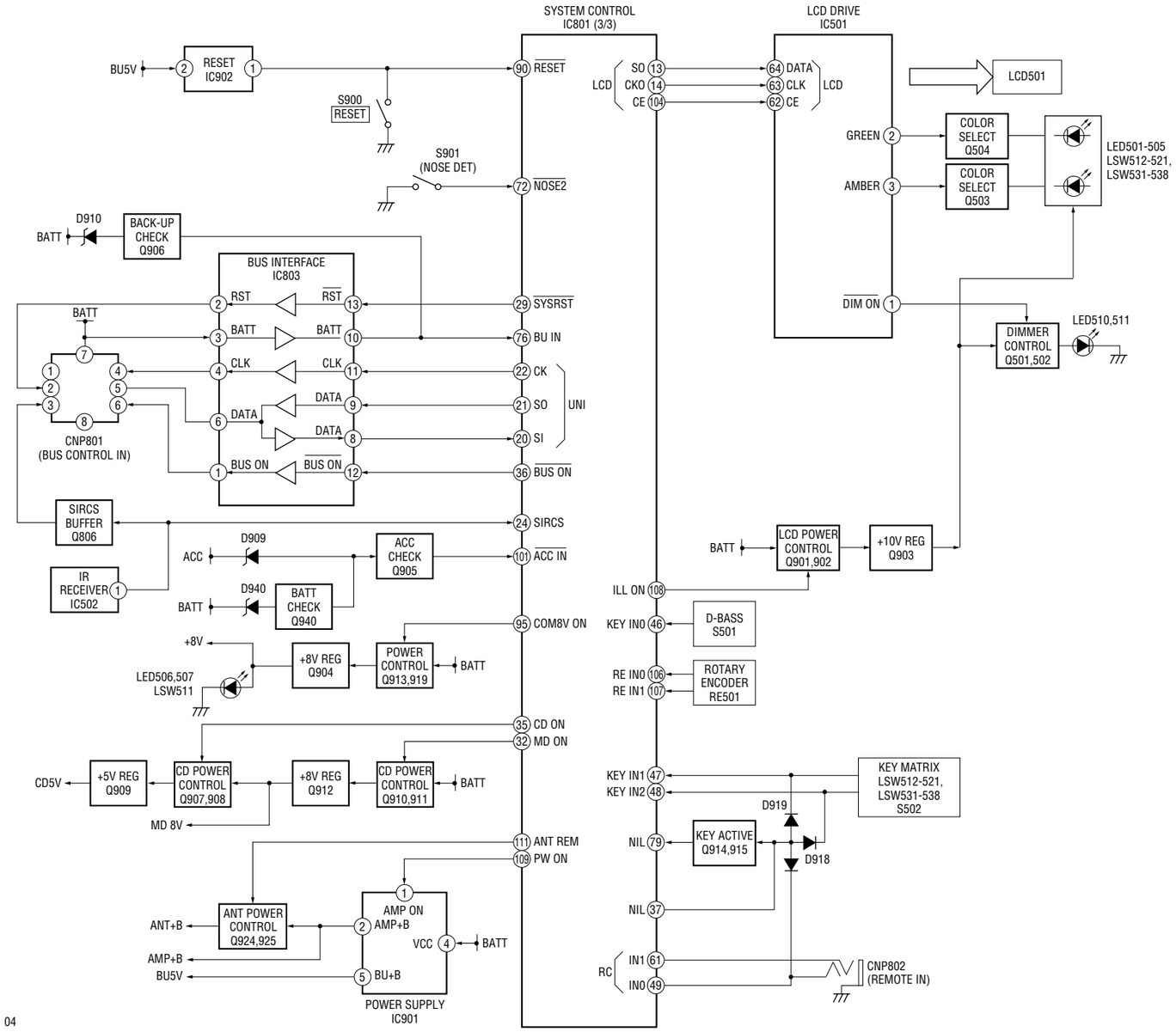

• Signal path
: CD

## 4-3. BLOCK DIAGRAM — TUNER SECTION —



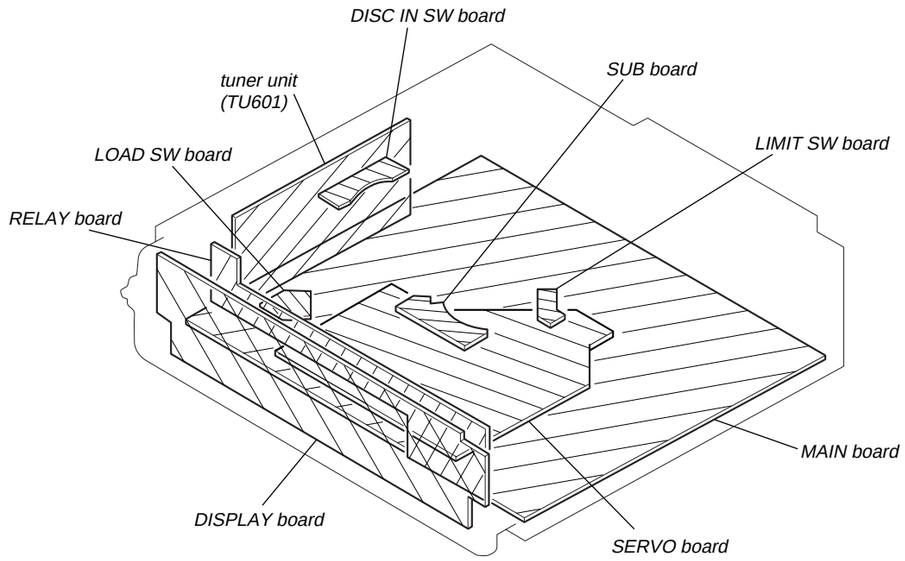

04

## 4-4. BLOCK DIAGRAM — DISPLAY SECTION —




04

## 4-5. CIRCUIT BOARDS LOCATION




**THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.**
**(In addition to this, the necessary note is printed in each block.)**

**for schematic diagram:**

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : MW
  ⇨ : CD
- Abbreviation
  G : German model.

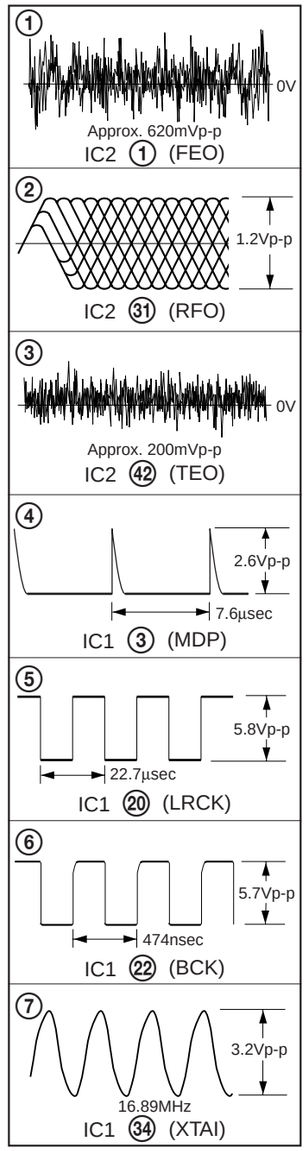
**for printed wiring boards:**

- o——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- ▒▒ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

Caution:
Pattern face side (Side B): Parts on the pattern face side seen from the pattern face are indicated.
Parts face side (Side A): Parts on the parts face side seen from the parts face are indicated.

- Abbreviation
  G : German model.

**• Waveforms** (MODE:PLAY)



## 4-6. PRINTED WIRING BOARDS — CD MECHANISM SECTION —

【SERVO BOARD】

【PICK-UP FLEXIBLE BOARD】

1-659-881-11

OPTICAL PICK-UP KSS-521A

(CHASSIS)

MAIN BOARD CNP700 (Page 39)

M903 (LOADING)

BLK

WHT

RED

WHT

WHT

1-663-953-12 (12)

【DISC IN SW BOARD】

SW1 (DISC IN)

SW2 (SELECT)

BLK

WHT

RED

1-659-836-11 (12)

【LIMIT SW BOARD】

SW3 (LIMIT)

GRN

BLU

1-659-835-12 (12)

【LOAD SW BOARD】

SW4 (DOWN)

WHT

WHT

1-659-837-11 (12)

【SUB BOARD】

【MOTOR FLEXIBLE BOARD】

1-659-880-11

GRN

BLU

1-659-834-11 (12)

M902 (SLED)

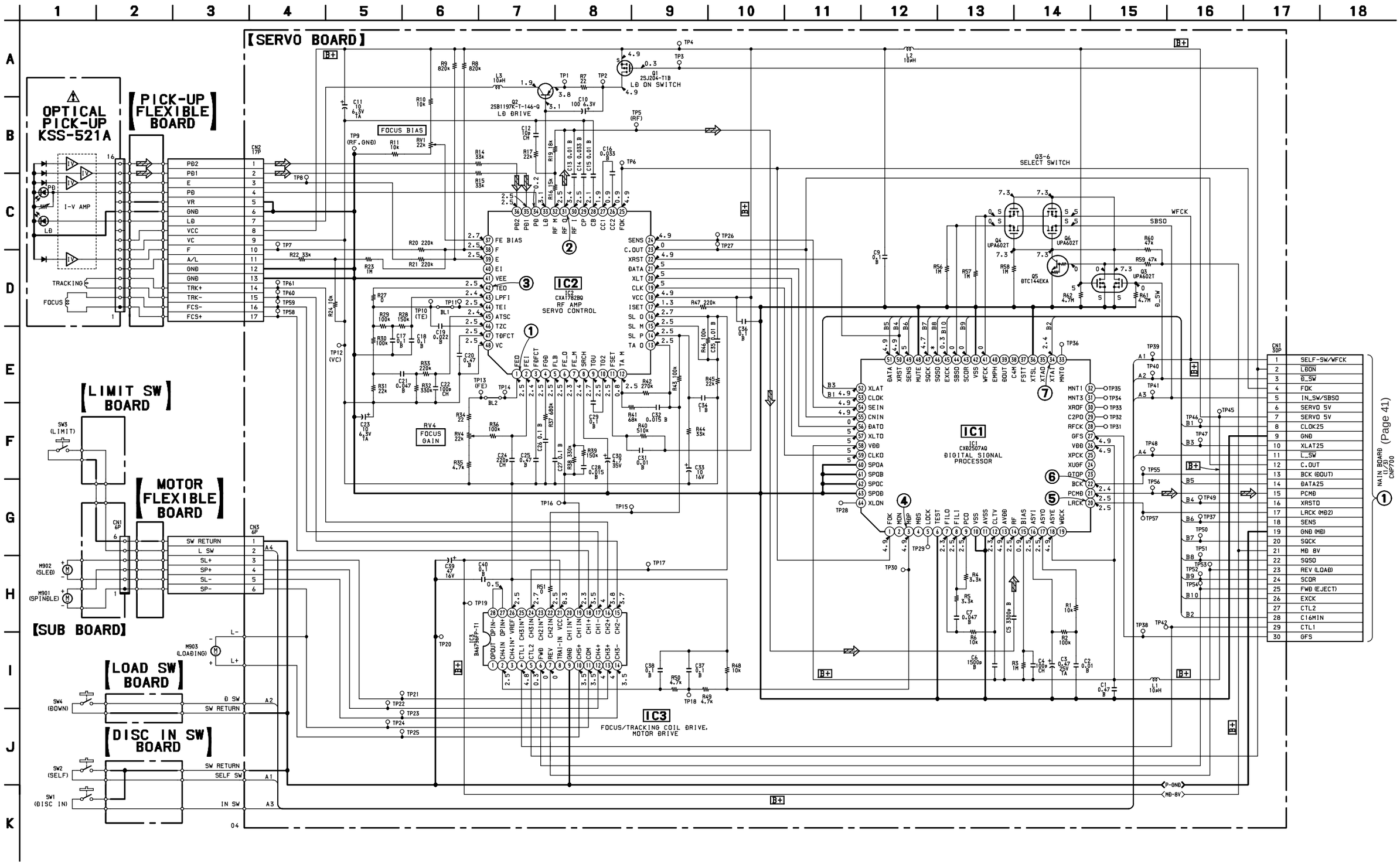
M901 (SPINDLE)

• **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| IC1 | D-3 |
| IC2 | E-5 |
| Q1 | F-5 |
| Q2 | F-6 |
| Q3 | F-2 |
| Q4 | F-2 |
| Q5 | F-2 |
| Q6 | F-3 |

## 4-7. SCHEMATIC DIAGRAM — CD MECHANISM SECTION —

• Refer to page 32 for Waveforms.
• Refer to page 53 for IC Block Diagrams.




**Note:**

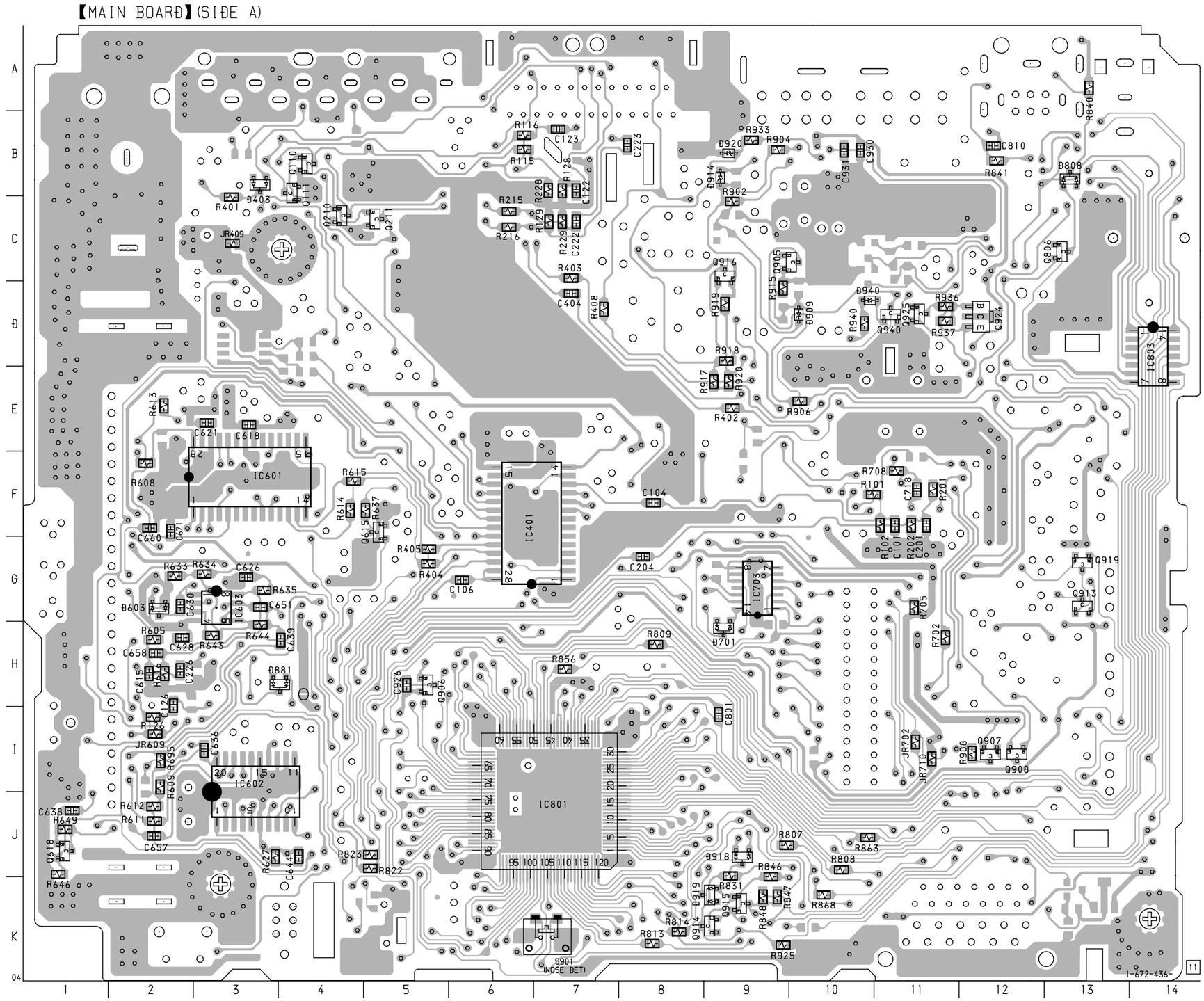
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  ∗ : Impossible to measure

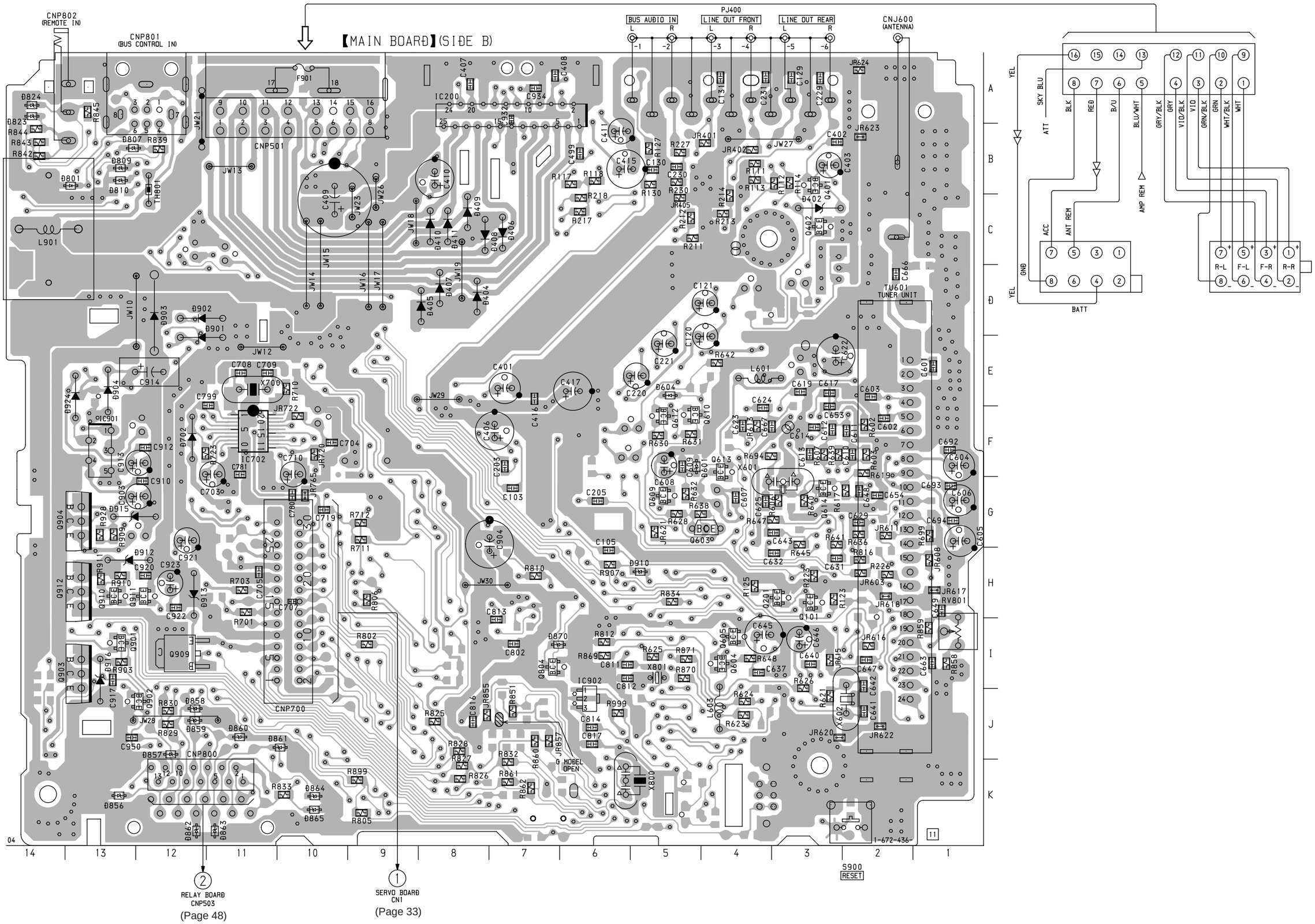
## 4-8. PRINTED WIRING BOARD — MAIN SECTION —

• **Semiconductor Location**

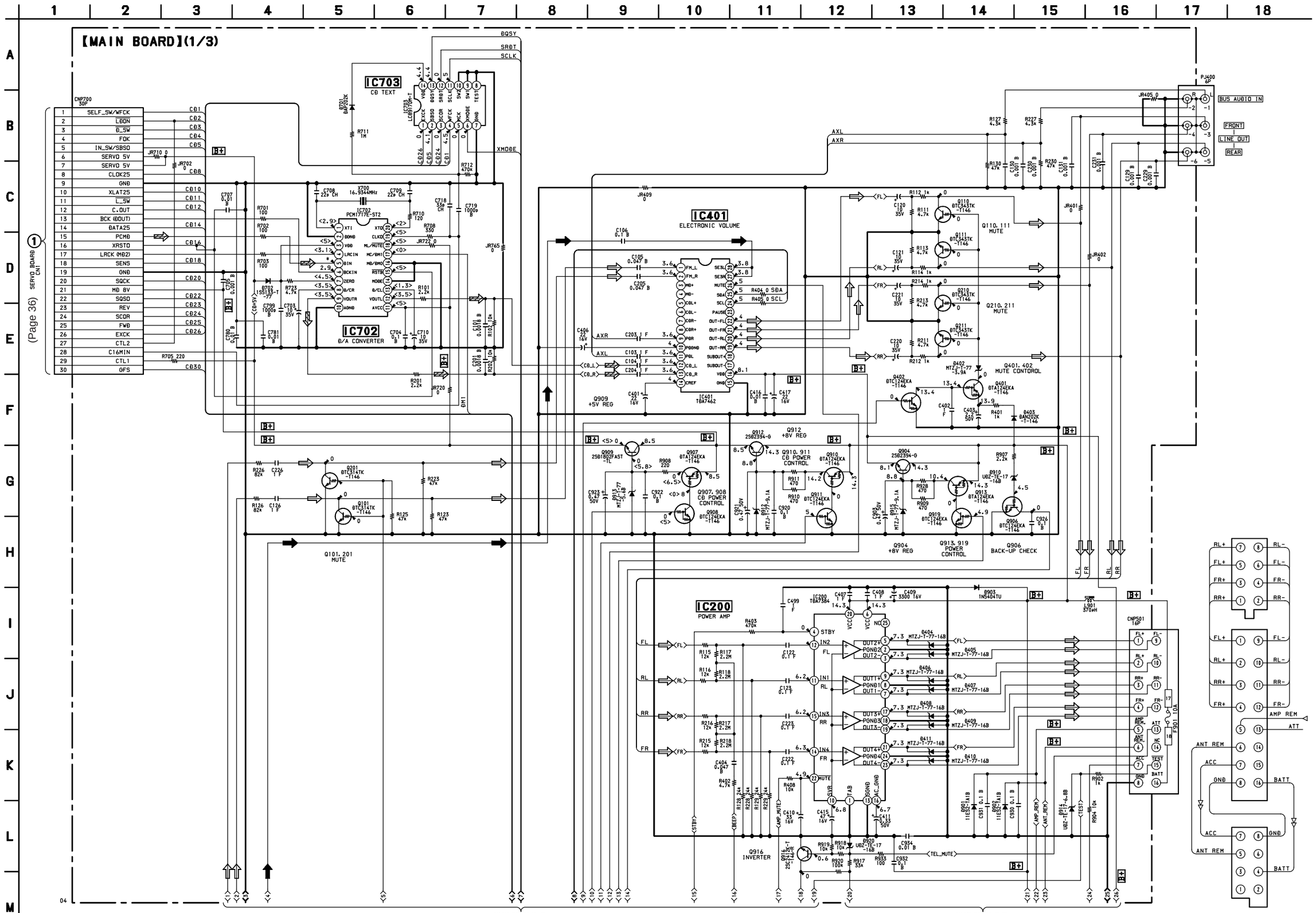
| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| (D402) | C-3 | IC401 | F-6 |
| D403 | B-3 | IC601 | F-3 |
| (D404) | D-8 | IC602 | I-3 |
| (D405) | D-8 | IC603 | G-3 |
| (D406) | C-7 | (IC702) | F-11 |
| (D407) | D-8 | IC703 | G-9 |
| (D408) | C-8 | IC801 | J-7 |
| (D409) | C-8 | IC803 | D-14 |
| (D410) | C-8 | (IC901) | F-13 |
| (D411) | C-8 | (IC902) | J-6 |
| (D601) | F-5 | | |
| D603 | G-2 | (Q101) | H-3 |
| (D604) | E-5 | Q110 | B-4 |
| D701 | H-9 | Q111 | B-4 |
| (D702) | F-12 | (Q201) | H-3 |
| (D801) | B-13 | Q210 | C-4 |
| (D807) | B-13 | Q211 | C-5 |
| D808 | B-13 | (Q401) | B-3 |
| (D809) | B-13 | (Q402) | C-3 |
| (D810) | B-13 | (Q603) | G-4 |
| (D823) | A-14 | (Q604) | I-4 |
| (D824) | A-14 | (Q605) | I-4 |
| (D856) | K-13 | (Q609) | G-5 |
| (D857) | J-12 | (Q610) | F-5 |
| (D858) | J-12 | (Q612) | F-5 |
| (D859) | J-12 | (Q613) | F-4 |
| (D860) | J-11 | (Q614) | G-3 |
| (D861) | J-10 | Q615 | F-5 |
| (D862) | K-12 | Q618 | J-1 |
| (D863) | K-11 | (Q804) | I-7 |
| (D864) | K-10 | Q806 | C-13 |
| (D865) | K-10 | (Q901) | I-13 |
| (D870) | I-7 | (Q902) | J-12 |
| D881 | H-4 | (Q903) | I-13 |
| (D901) | E-12 | (Q904) | G-13 |
| (D902) | D-12 | Q905 | C-9 |
| (D903) | D-12 | Q906 | H-5 |
| (D904) | E-13 | Q907 | I-12 |
| D909 | D-10 | Q908 | I-12 |
| (D910) | H-5 | (Q909) | I-12 |
| (D912) | H-13 | (Q910) | H-13 |
| (D913) | H-12 | (Q911) | H-12 |
| D914 | B-9 | (Q912) | H-13 |
| (D915) | G-13 | Q913 | G-13 |
| (D916) | J-13 | Q914 | K-9 |
| D918 | J-9 | Q915 | K-9 |
| D919 | K-9 | Q916 | C-9 |
| D920 | B-9 | Q919 | G-13 |
| (D924) | E-13 | Q924 | D-12 |
| D940 | D-11 | Q925 | D-11 |
| | | Q940 | D-11 |
| (IC200) | A-8 | | |

( ) : SIDE B




【MAIN BOARD】(SIDE B)
CNP802
(REMOTE IN)
CNP801
(BUS CONTROL IN)
PJ400
BUS AUDIO IN
LINE OUT FRONT
LINE OUT REAR
CNJ600
(ANTENNA)
CNP501
CNP700
CNP800
IC200
IC702
IC901
IC902
TU601
TUNER UNIT
X700
X800
X801
X601
F901
TH801
L901
L601
L603
Q909
Q901
Q401
Q402
Q601
Q603
Q604
Q613
Q804
Q904
Q912
Q903
Q201
Q101
S900
RESET
G MODEL
OPEN
ATT
SKY BLU
YEL
BLK
RED
B/U
BLU/WHT
GRY/BLK
GRY
VIO/BLK
VIO
GRN/BLK
GRN
WHT/BLK
WHT
ACC
ANT REM
AMP REM
GND
BATT
R-L
F-L
F-R
R-R
RELAY BOARD
CNP503
(Page 48)
SERVO BOARD
CN1
(Page 33)
1-672-436-11

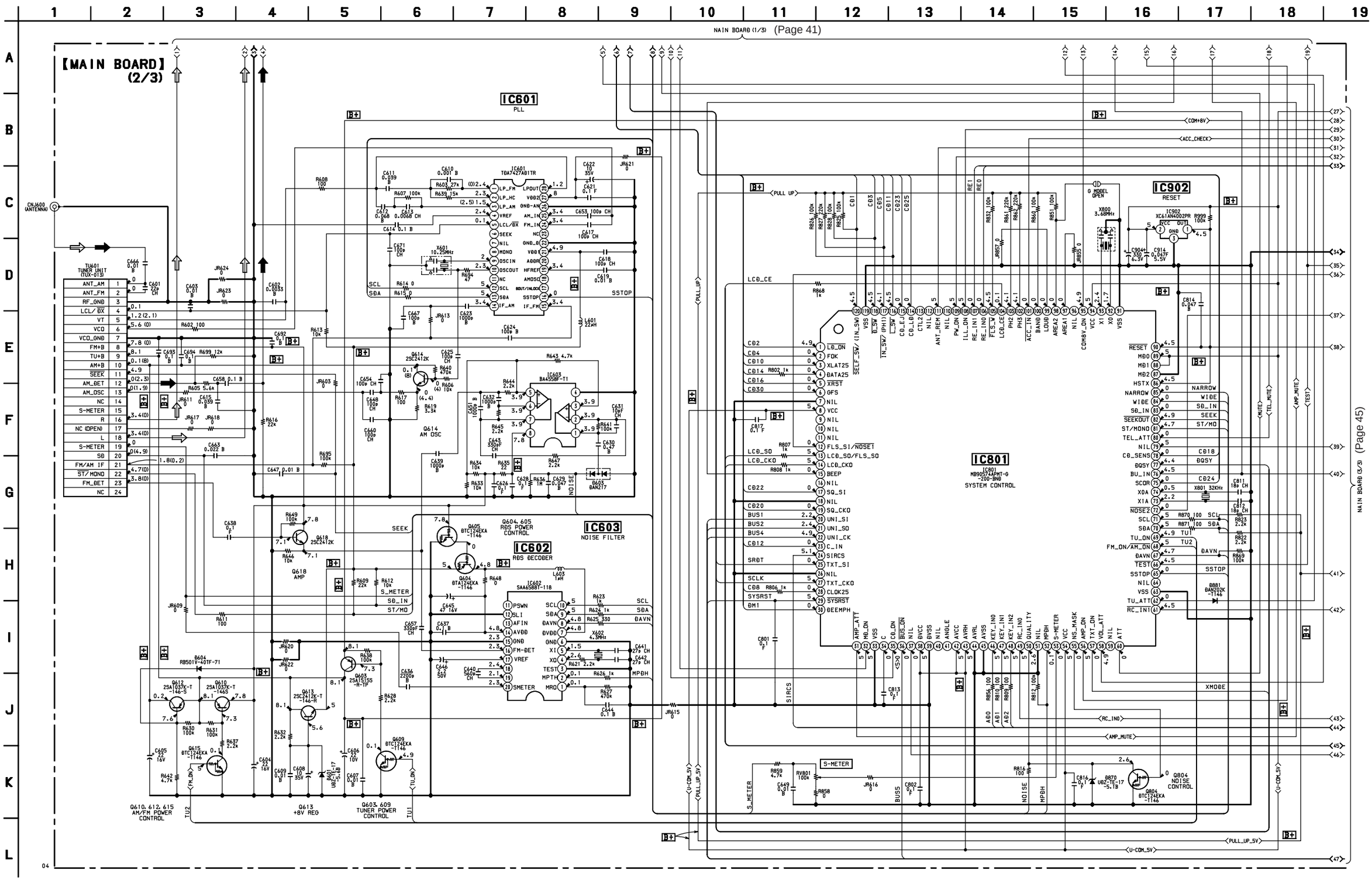
## 4-9. SCHEMATIC DIAGRAM — MAIN SECTION (1/3) — • Refer to page 55 for IC Block Diagrams.




**Note:**

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW
  < > : CD PLAY

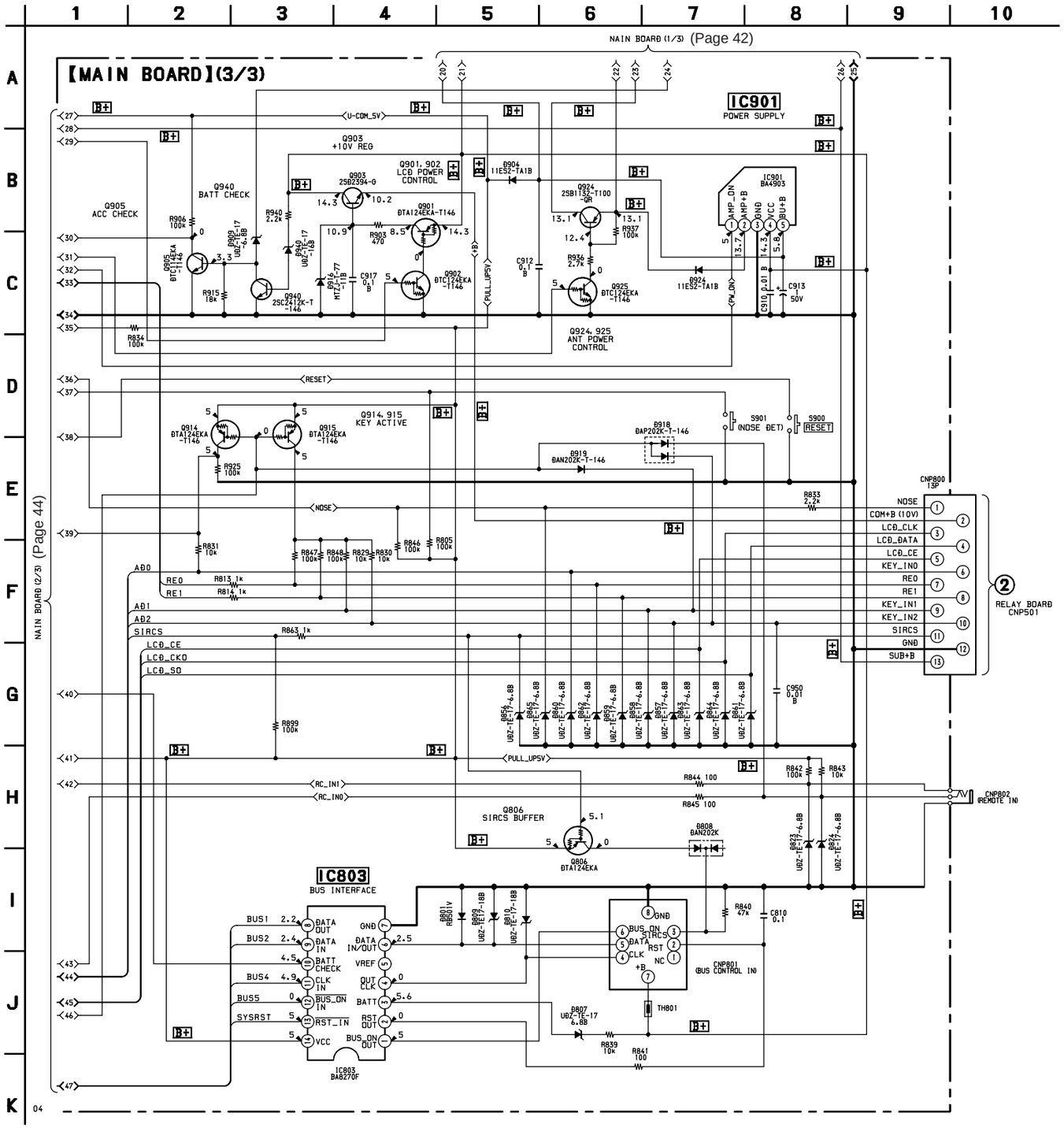
## 4-10. SCHEMATIC DIAGRAM — MAIN SECTION (2/3) — • Refer to page 53 for IC Block Diagrams.



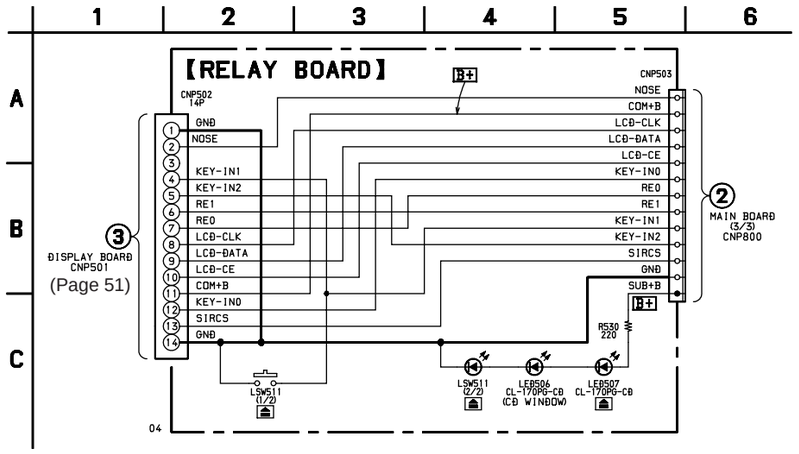

**Note:**

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW
  < > : CD PLAY

## 4-11. SCHEMATIC DIAGRAM — MAIN SECTION (3/3) — • Refer to page 55 for IC Block Diagrams.



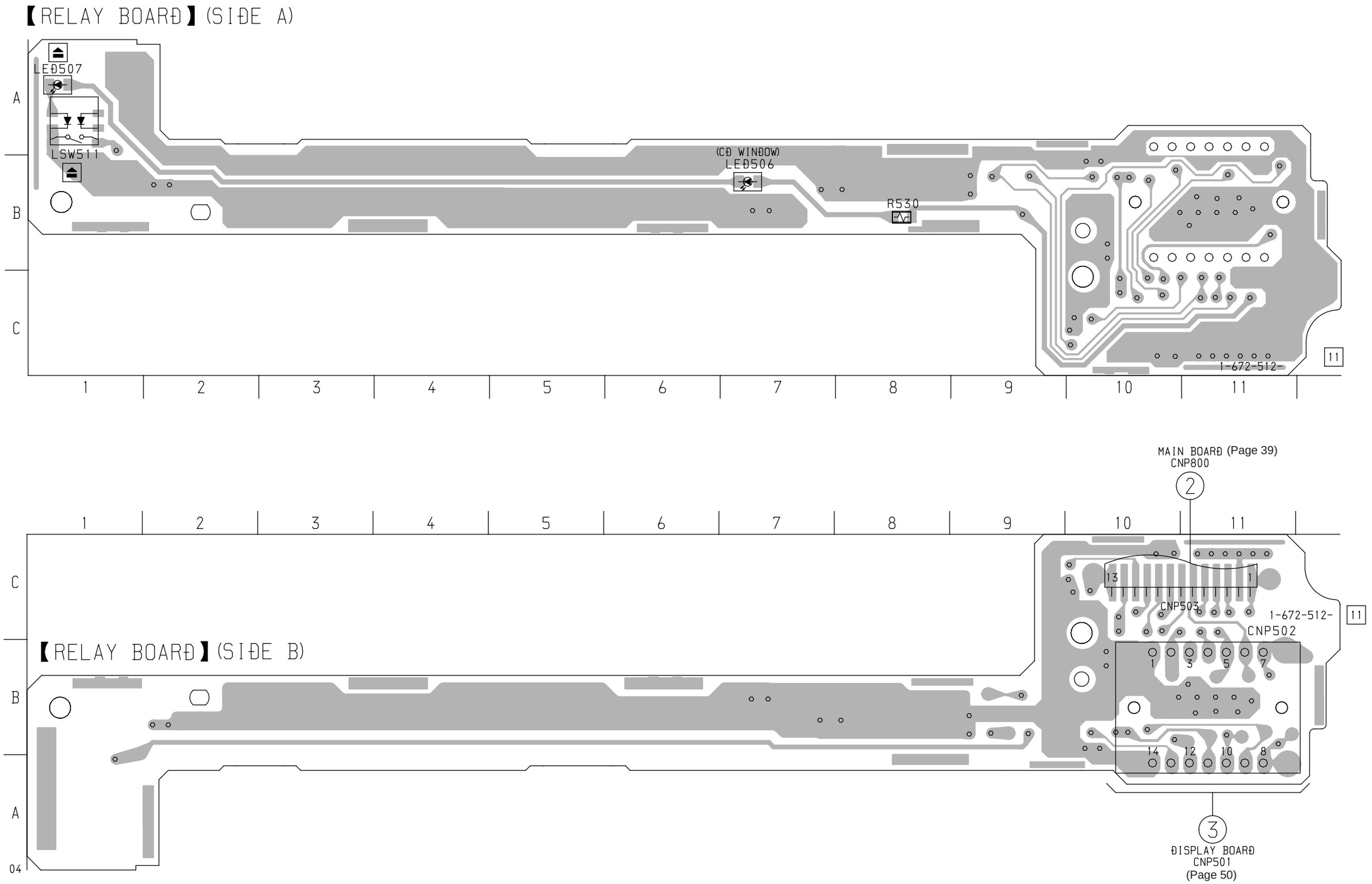

## 4-12. SCHEMATIC DIAGRAM — RELAY SECTION —




**Note:**

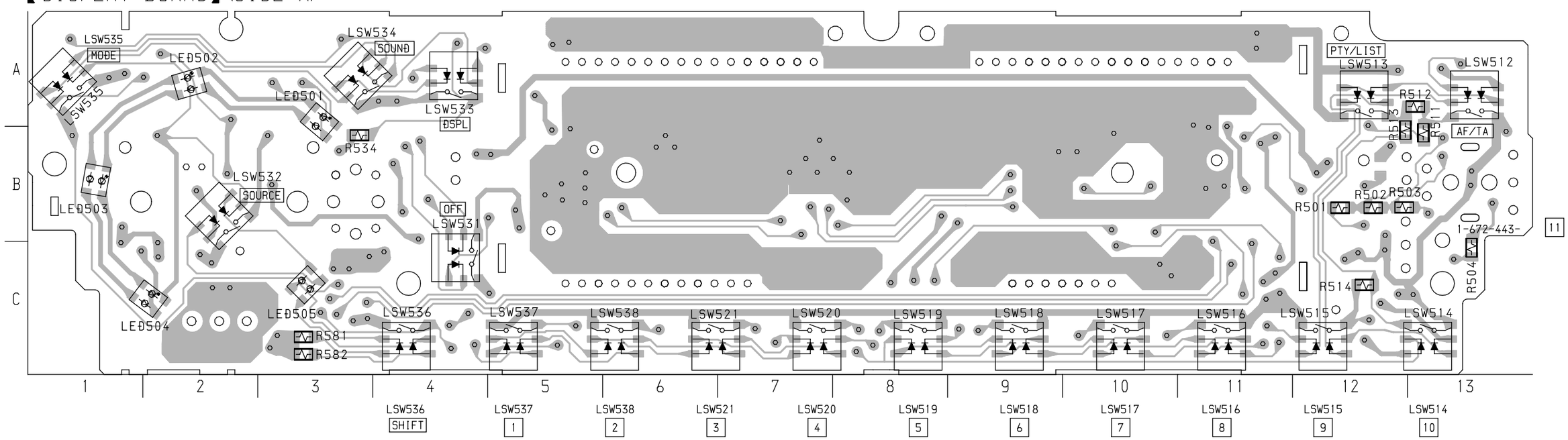
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW
  < > : CD PLAY

### 4-13. PRINTED WIRING BOARD — RELAY SECTION —

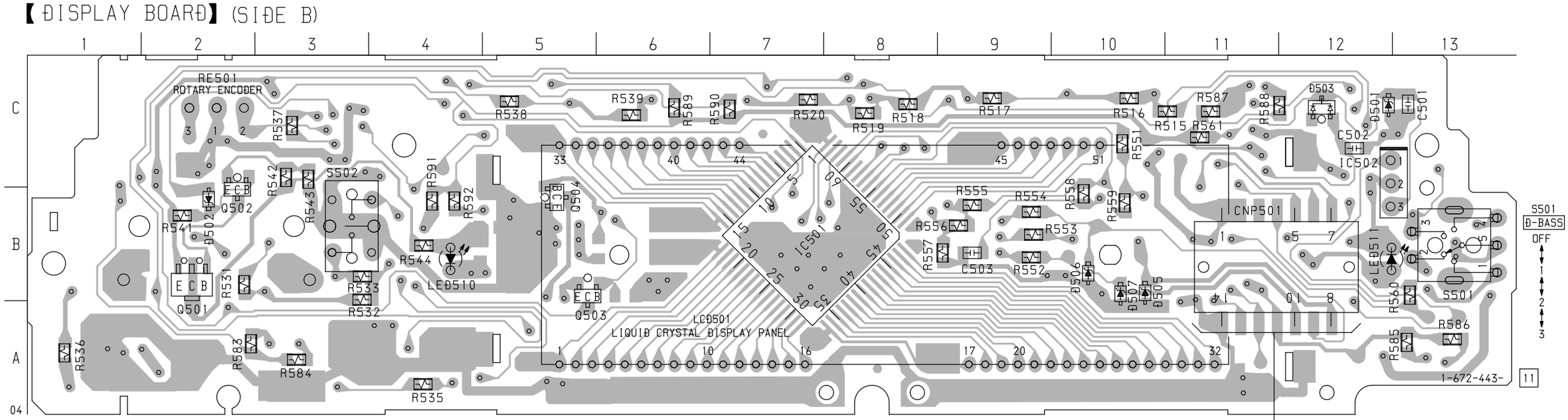


### 4-14. PRINTED WIRING BOARD — DISPLAY SECTION —

【DISPLAY BOARD】(SIDE A)




【DISPLAY BOARD】(SIDE B)

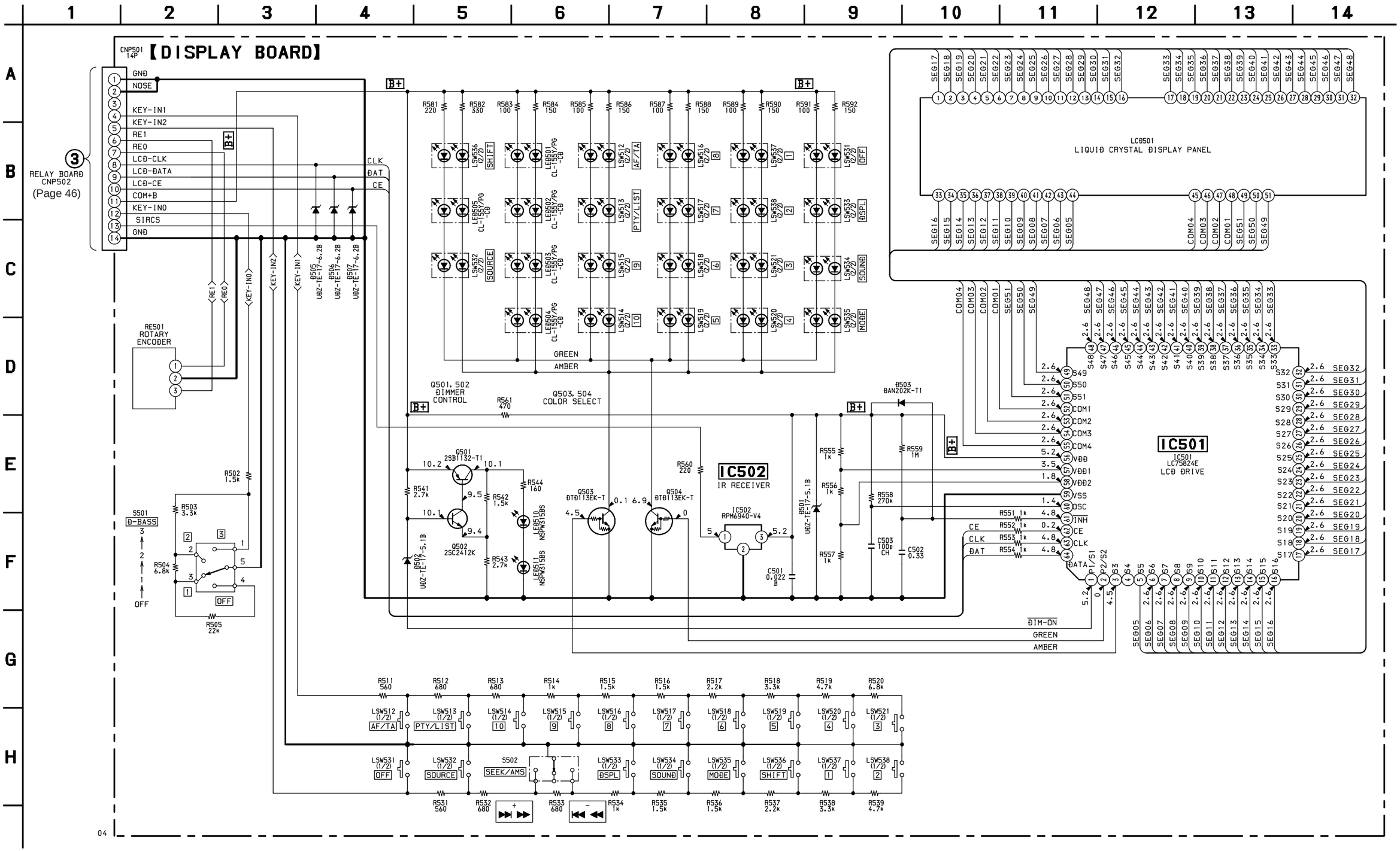



• **Semiconductor Location**

| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D501 | C-12 | (LED502) | A-2 |
| D502 | B-2 | (LED503) | B-1 |
| D503 | C-12 | (LED504) | C-2 |
| D505 | B-10 | (LED505) | C-3 |
| D506 | B-10 | LED510 | B-4 |
| D507 | B-10 | LED511 | B-12 |
| IC501 | B-7 | Q501 | B-2 |
| IC502 | B-12 | Q502 | B-2 |
| | | Q503 | B-5 |
| (LED501) | A-3 | Q504 | B-5 |

( ) : SIDE A

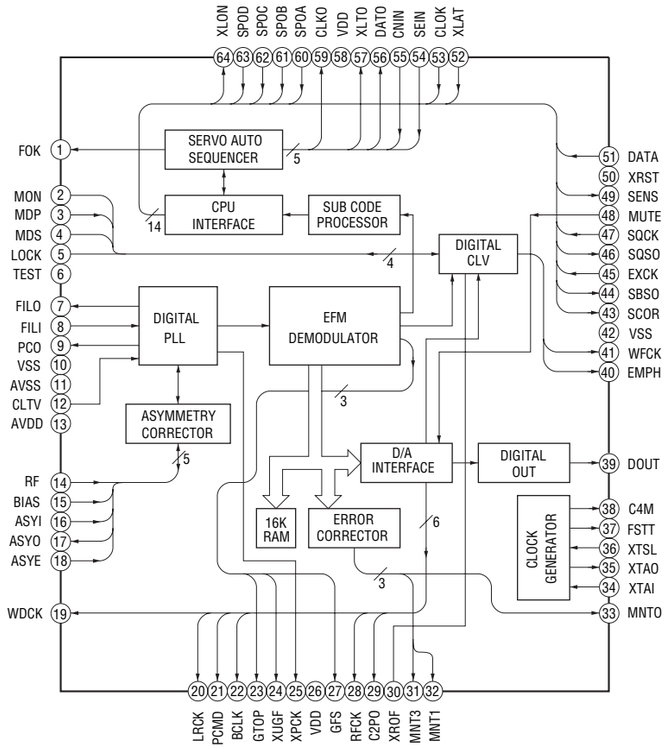
## 4-15. SCHEMATIC DIAGRAM — DISPLAY SECTION —



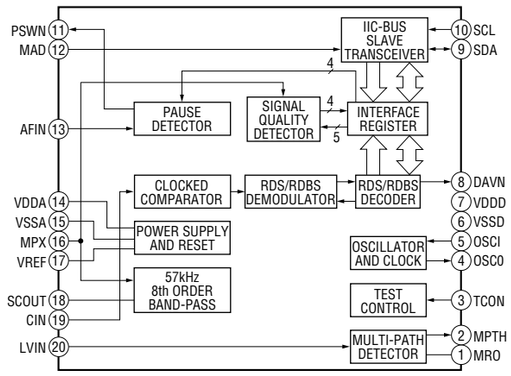

**Note:**
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

## • IC Block Diagrams

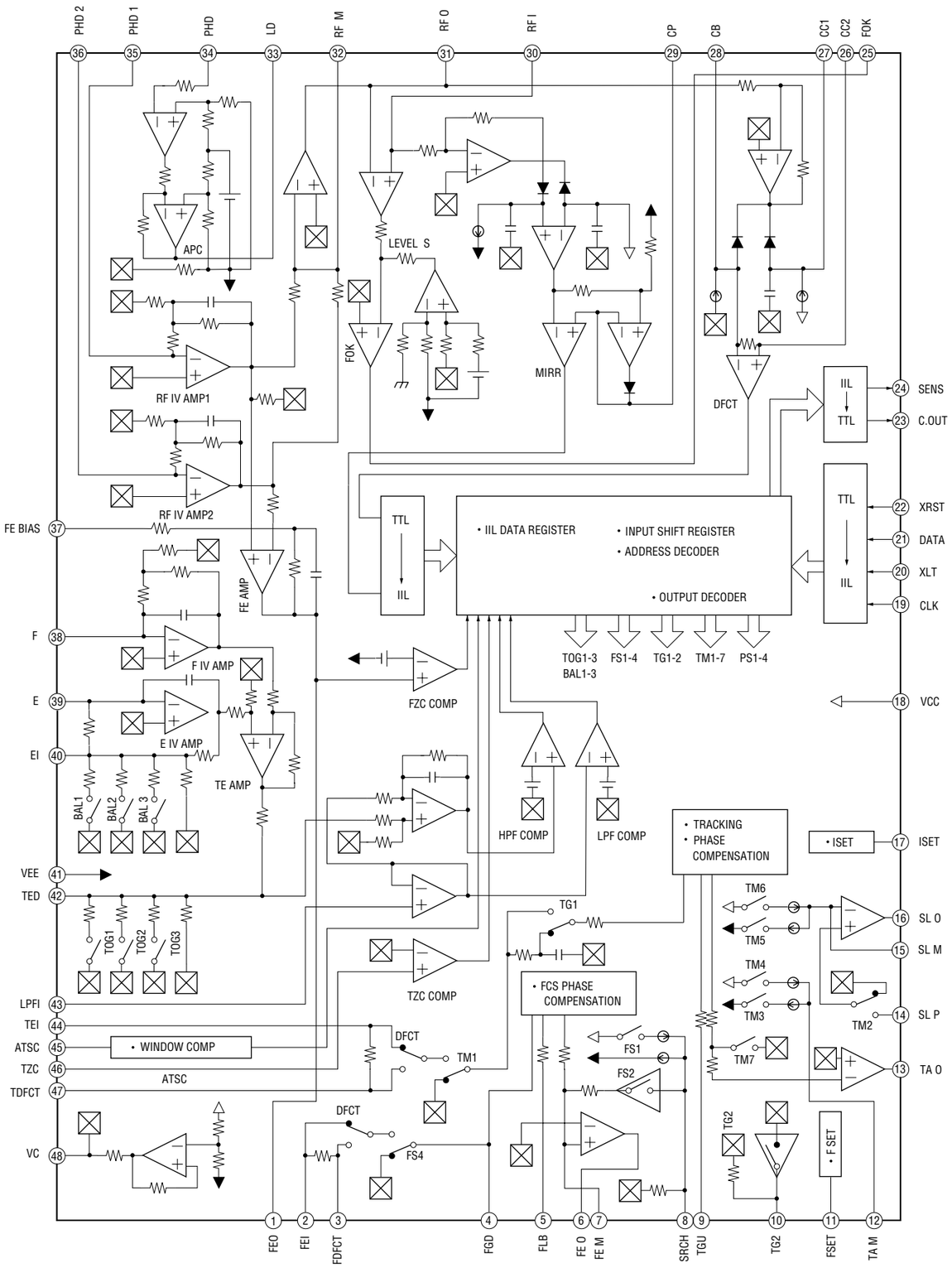
### IC1 CXD2507AQ



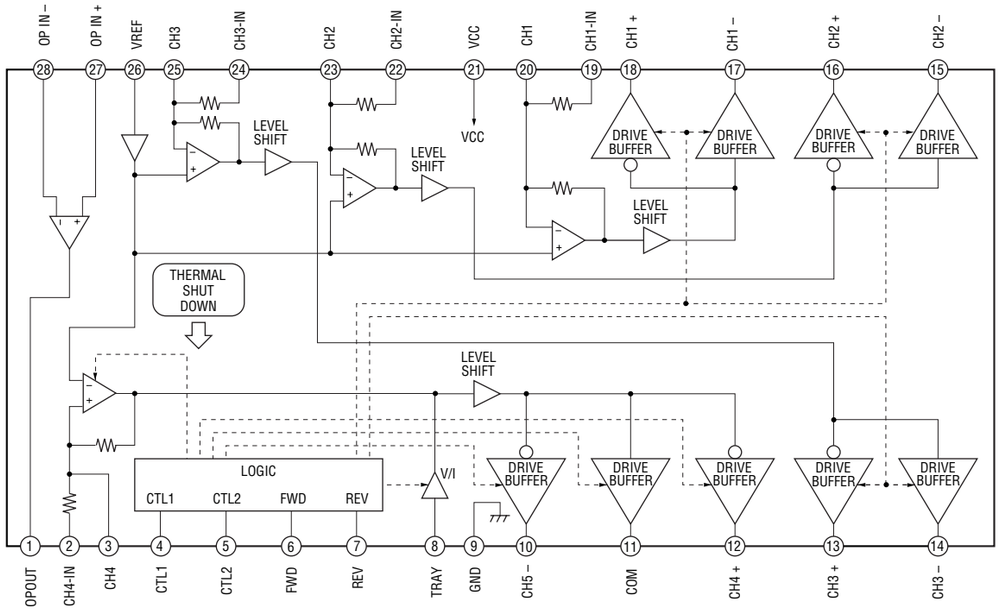

### IC602 SAA6588T-118



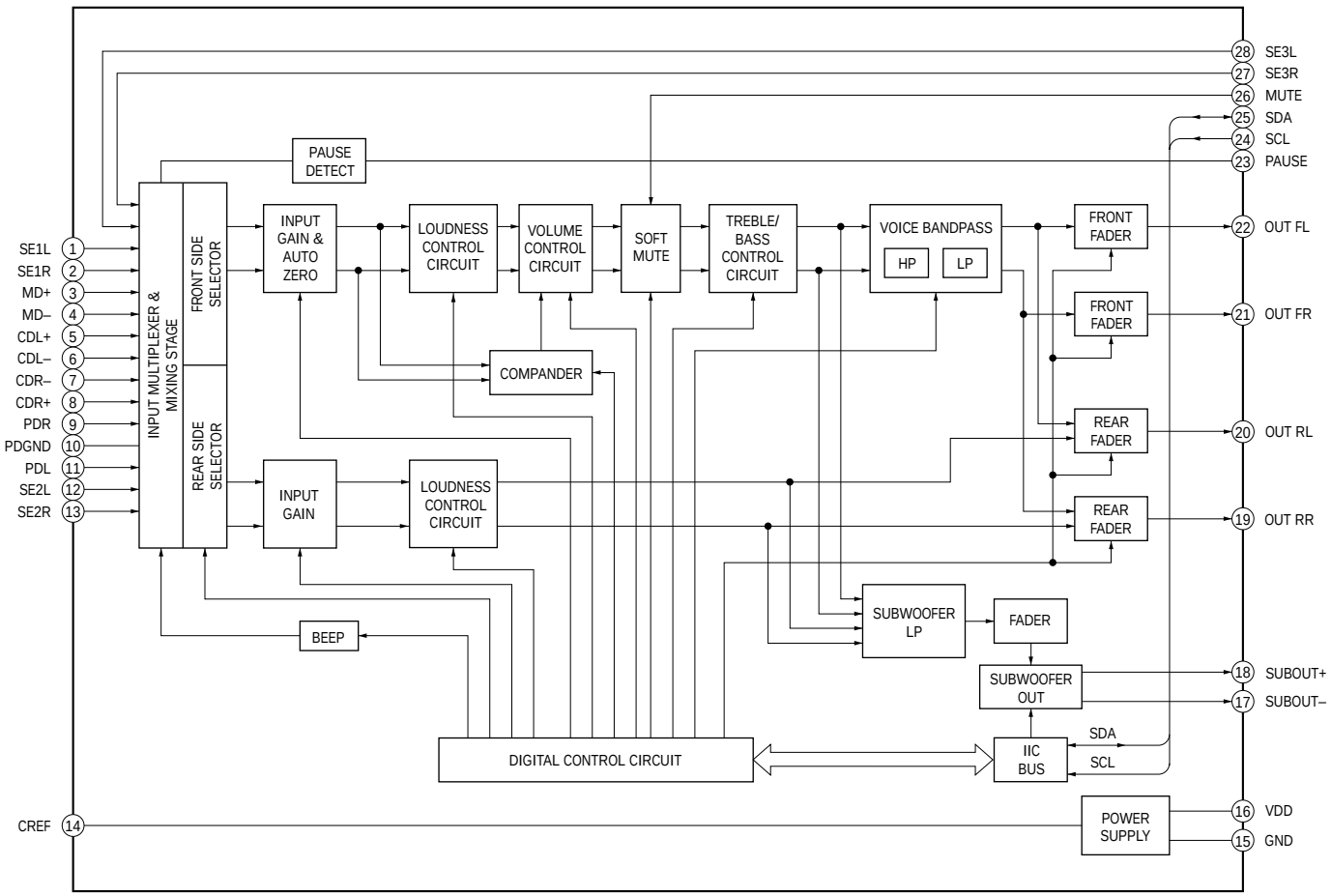

### IC2 CXA1782BQ



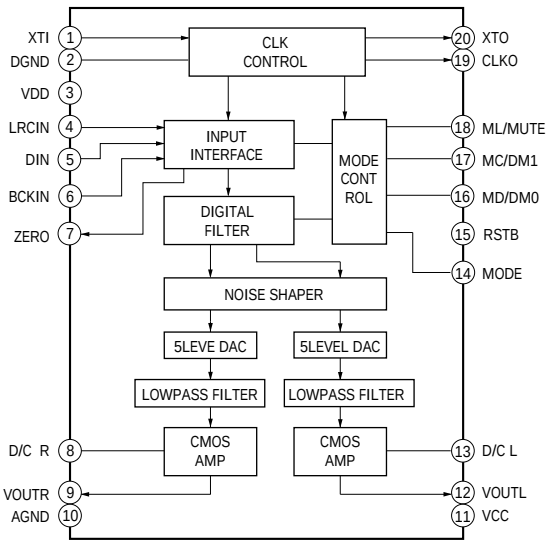

### IC3 BA6796FP-T1


OP IN – OP IN + VREF CH3 CH3-IN CH2 CH2-IN VCC CH1 CH1-IN CH1 + CH1 – CH2 + CH2 –
28 27 26 25 24 23 22 21 20 19 18 17 16 15
LEVEL SHIFT
DRIVE BUFFER
THERMAL SHUT DOWN
LOGIC
CTL1 CTL2 FWD REV
V/I
1 2 3 4 5 6 7 8 9 10 11 12 13 14
OPOUT CH4-IN CH4 CTL1 CTL2 FWD REV TRAY GND CH5 – COM CH4 + CH3 + CH3 –

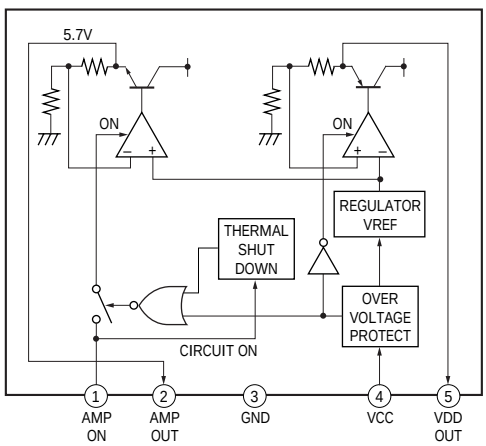
## IC401 TDA7462



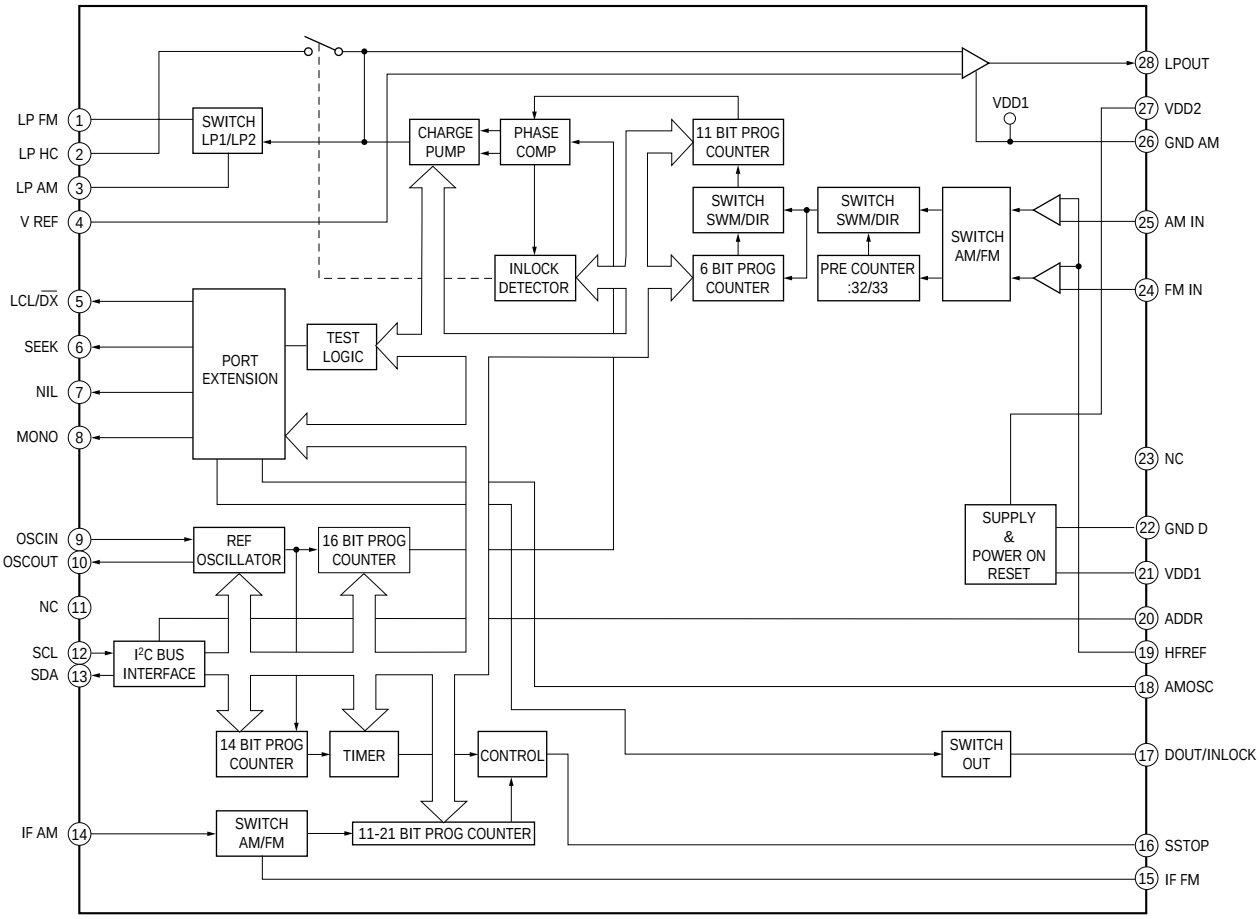

## IC702 PCM1717E-ST2



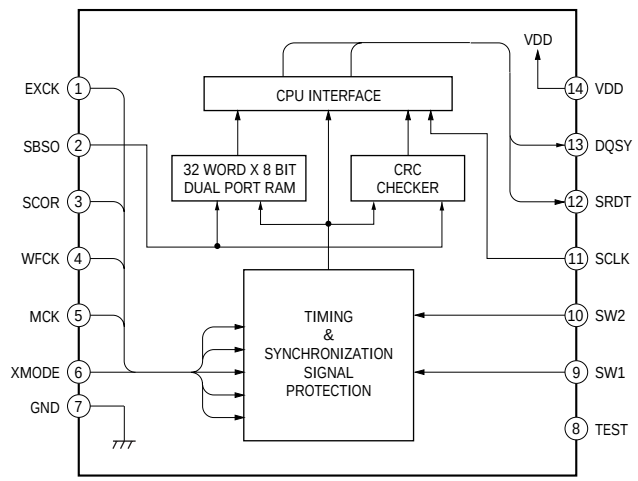

## IC901 BA4903



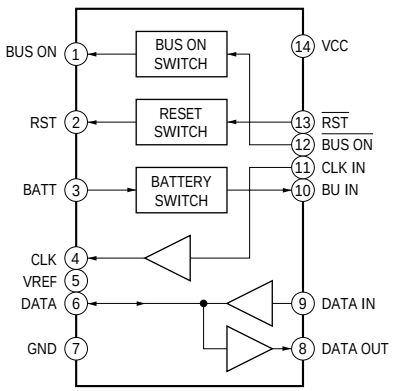
## IC601 TDA7427AD1TR




## IC703 LC89170M-T




## IC803 BA8270F-E2



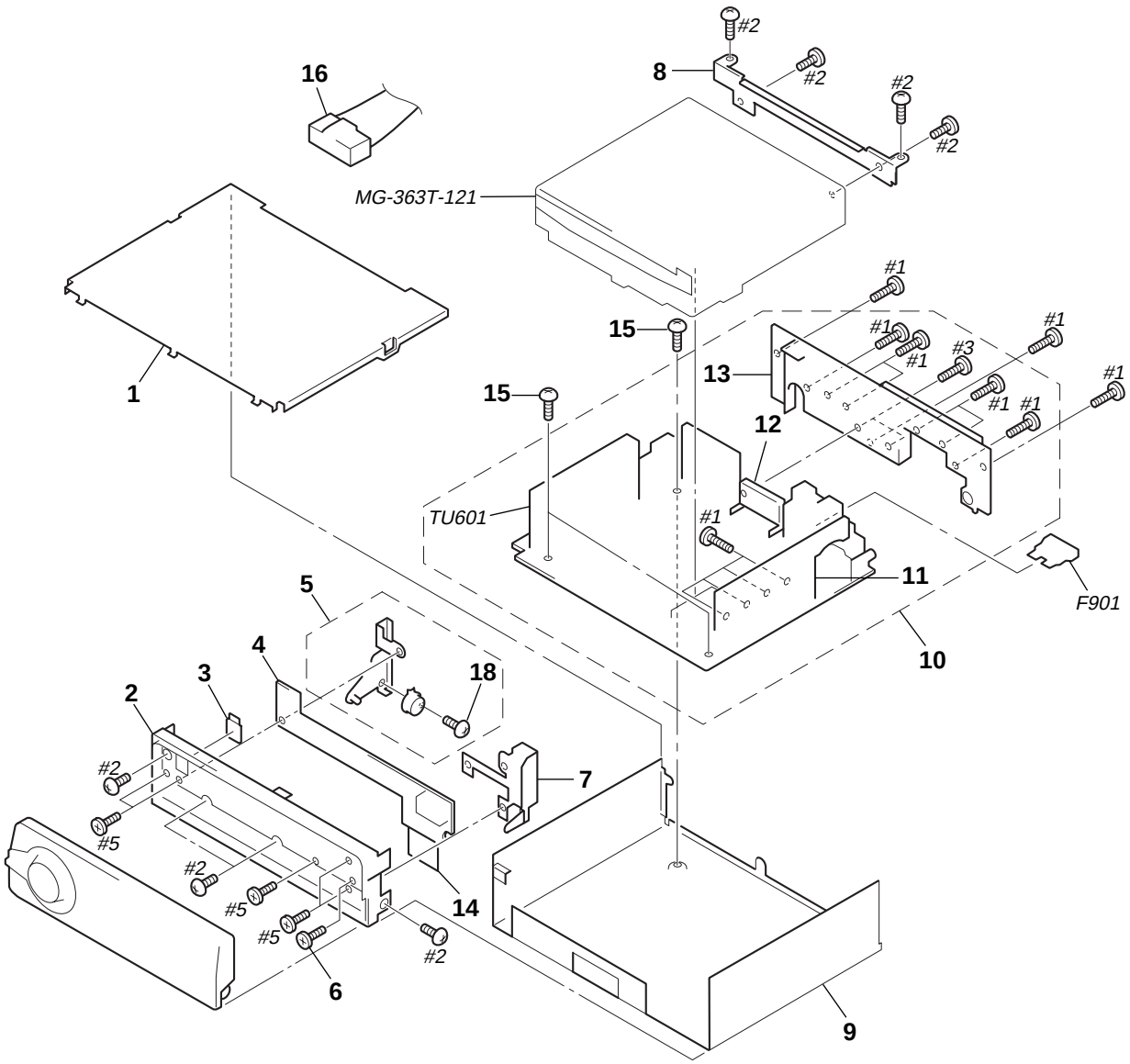
# SECTION 5
# EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

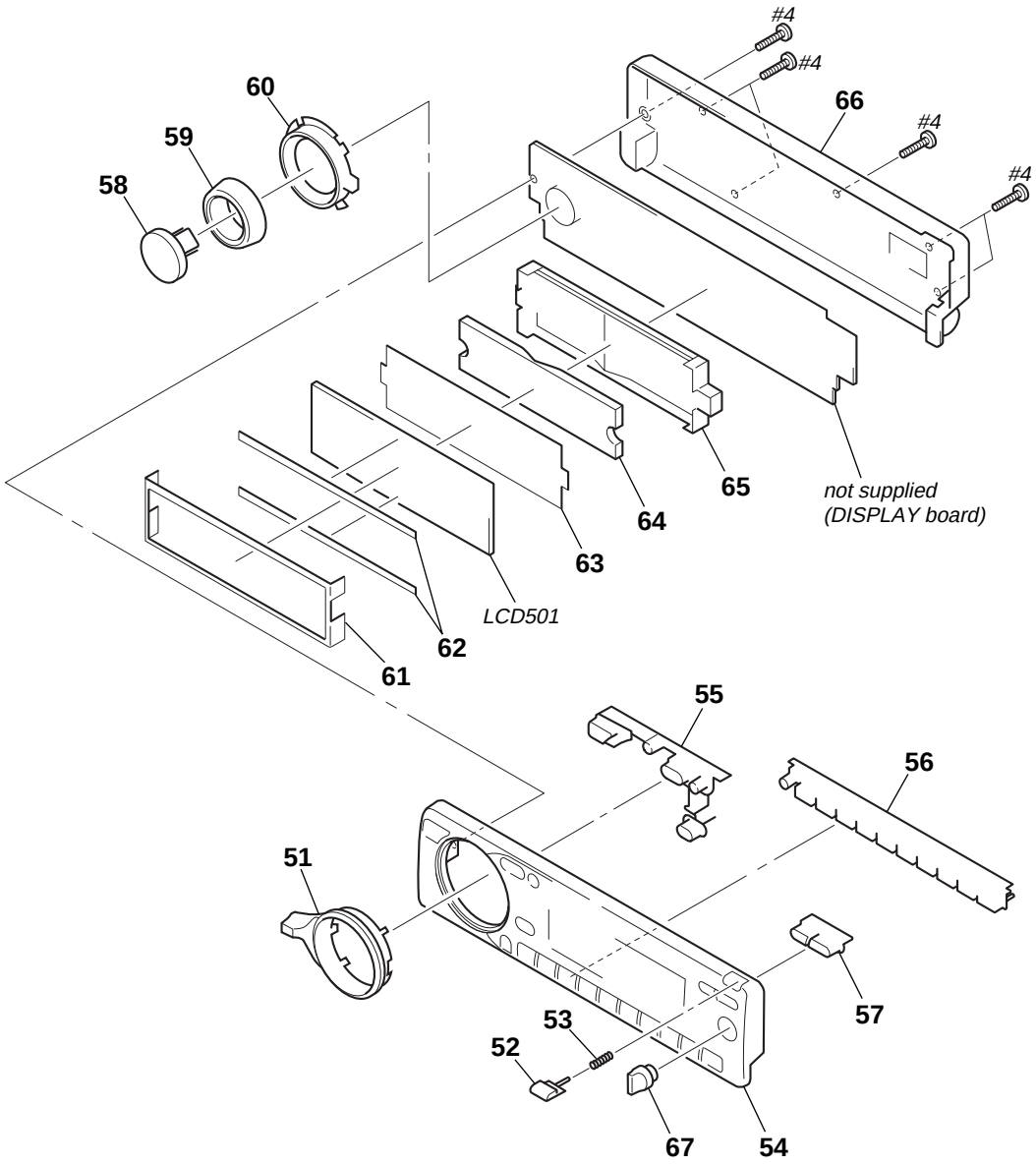
The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

## 5-1. CHASSIS SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 1 | 3-030-881-01 | COVER | |
| 2 | X-3376-701-1 | PANEL ASSY, SUB | |
| 3 | 3-030-892-01 | BUTTON (EJECT) | |
| * 4 | 1-672-512-11 | RELAY BOARD | |
| 5 | X-3376-699-1 | GEAR ASSY | |
| 6 | 3-035-250-01 | SCREW (LOCK) | |
| 7 | X-3376-700-1 | LOCK ASSY | |
| * 8 | 3-030-883-01 | BRACKET (MD) | |
| * 9 | 3-030-882-01 | CHASSIS | |
| * 10 | A-3294-597-A | MAIN BOARD, COMPLETE | |
| * 11 | 3-030-884-01 | HEAT SINK (REG) | |
| * 12 | 3-030-864-01 | BRACKET (IC) | |
| * 13 | 3-032-204-11 | HEAT SINK | |
| 14 | 1-790-481-11 | CABLE, FLAT (FFC) 13P | |
| 15 | 3-915-923-01 | SCREW, GROUND POINT | |
| 16 | 1-776-527-61 | CORD (WITH CONNECTOR) (ISO) (POWER) | |
| F901 | 1-532-877-11 | FUSE (BLADE TYPE) (AUTO FUSE) 10A | |
| TU601 | 1-693-440-11 | TUNER UNIT | |

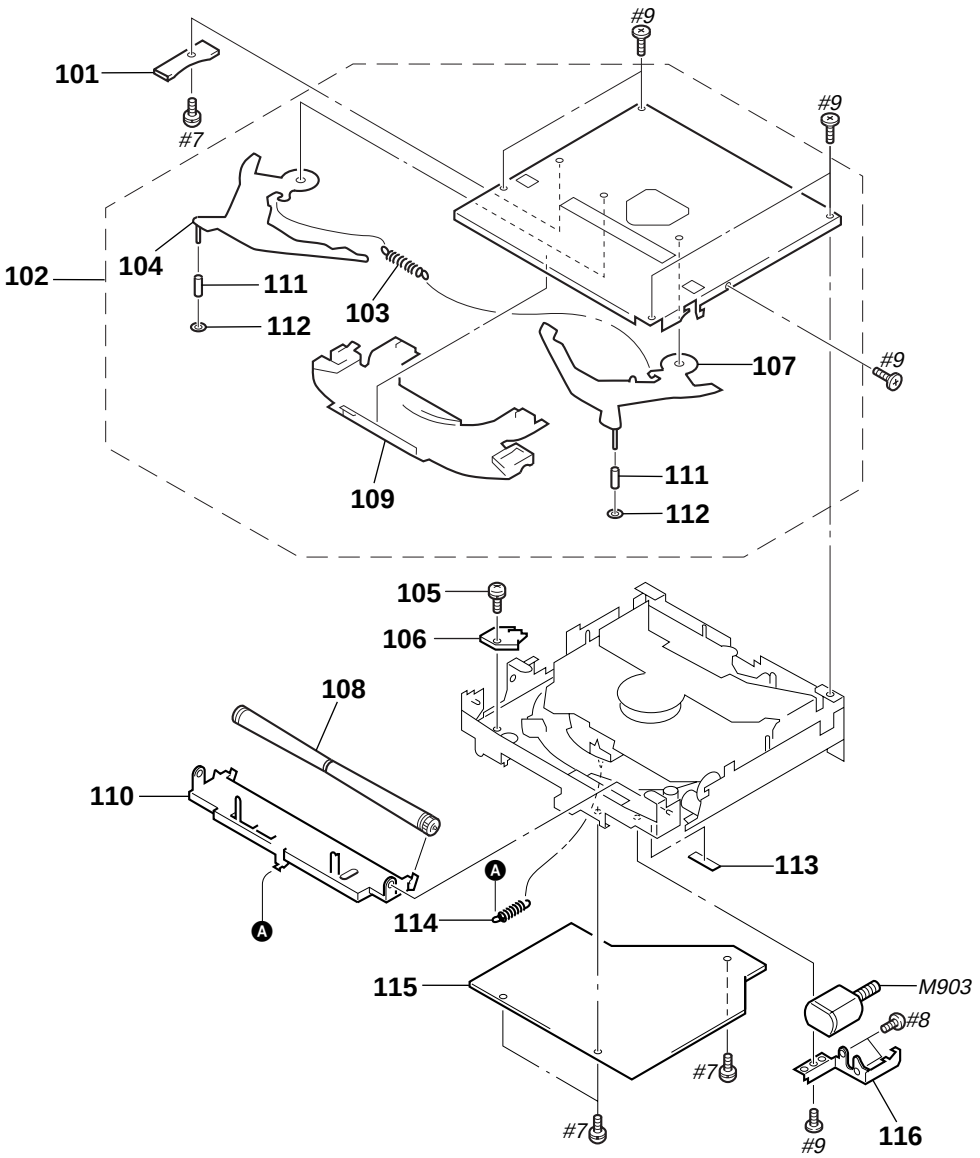
## 5-2. FRONT PANEL SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | 3-030-944-01 | LEVER (SEEK/AMS) | |
| 52 | 3-030-950-01 | BUTTON (OPEN) | |
| 53 | 3-032-321-01 | SPRING (OPEN) | |
| 54 | X-3376-753-1 | PANEL ASSY, FRONT | |
| 55 | 3-030-904-01 | BUTTON (MODE) | |
| 56 | 3-030-906-01 | BUTTON (1-10) | |
| 57 | 3-030-898-01 | BUTTON (PTY) | |
| 58 | 3-030-903-01 | BUTTON (SOURCE) | |
| 59 | 3-030-899-01 | KNOB (VOL) | |

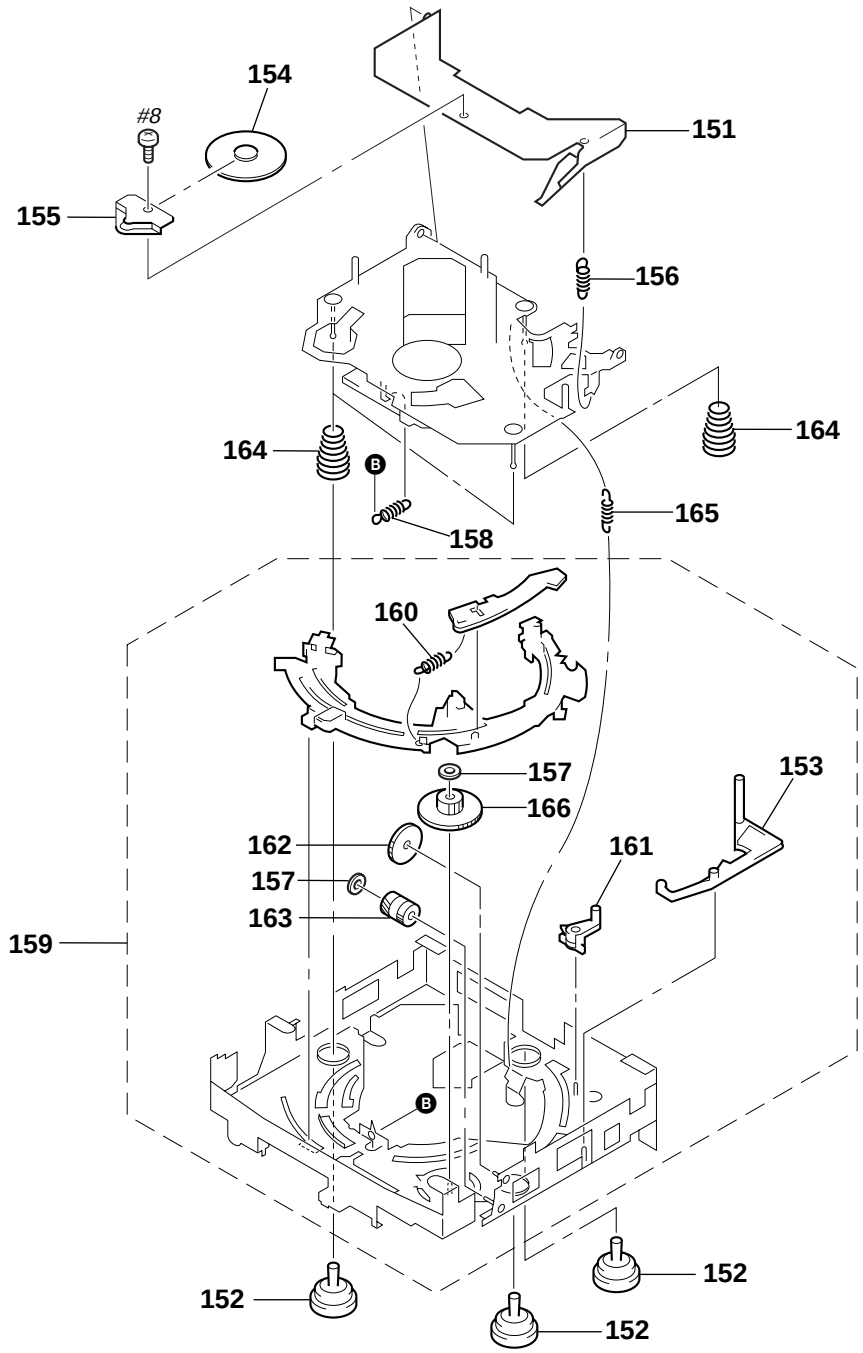
| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 60 | 3-030-901-01 | RING | |
| * 61 | 3-030-888-01 | PLATE (LCD), GROUND | |
| * 62 | 3-032-199-01 | SHEET (ESD) | |
| * 63 | 3-030-933-01 | SHEET (DIFFUSION) | |
| * 64 | 3-030-902-01 | PLATE (LCD), LIGHT GUIDE | |
| * 65 | 3-030-908-01 | HOLDER, LCD | |
| 66 | X-3376-707-1 | PANEL ASSY, FRONT BACK | |
| 67 | 3-031-091-01 | BUTTON (D-BASS) | |
| LCD501 | 1-803-442-11 | DISPLAY PANEL, LIQUID CRYSTAL | |

## 5-3. CD MECHANISM SECTION (1)
## (MG-363T-121)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 101 | 1-659-836-11 | DISC IN SW BOARD | |
| * 102 | A-3291-816-B | CHASSIS (T) SUB ASSY | |
| 103 | 3-931-909-01 | SPRING (LR), TENSION | |
| 104 | X-3371-501-1 | LEVER (L) ASSY | |
| 105 | 3-338-737-01 | SCREW (2X3), +PS | |
| * 106 | 1-659-837-11 | LOAD SW BOARD | |
| 107 | X-3371-502-1 | LEVER (R) ASSY | |
| 108 | A-3301-203-A | ROLLER ASSY | |
| 109 | 3-931-908-01 | GUIDE (DISC) | |
| 110 | 3-931-902-04 | ARM (ROLLER) | |
| 111 | 3-936-756-01 | ROLLER (D) | |
| 112 | 3-321-393-01 | WASHER, STOPPER | |
| * 113 | 3-939-139-01 | SPACER | |
| 114 | 3-931-916-01 | SPRING (RA), TENSION | |
| * 115 | A-3309-694-A | SERVO BOARD, COMPLETE | |
| * 116 | 3-007-530-01 | BRACKET (MOTOR) | |
| M903 | A-3291-676-A | MOTOR SUB ASSY, LOADING (LOADING) | |

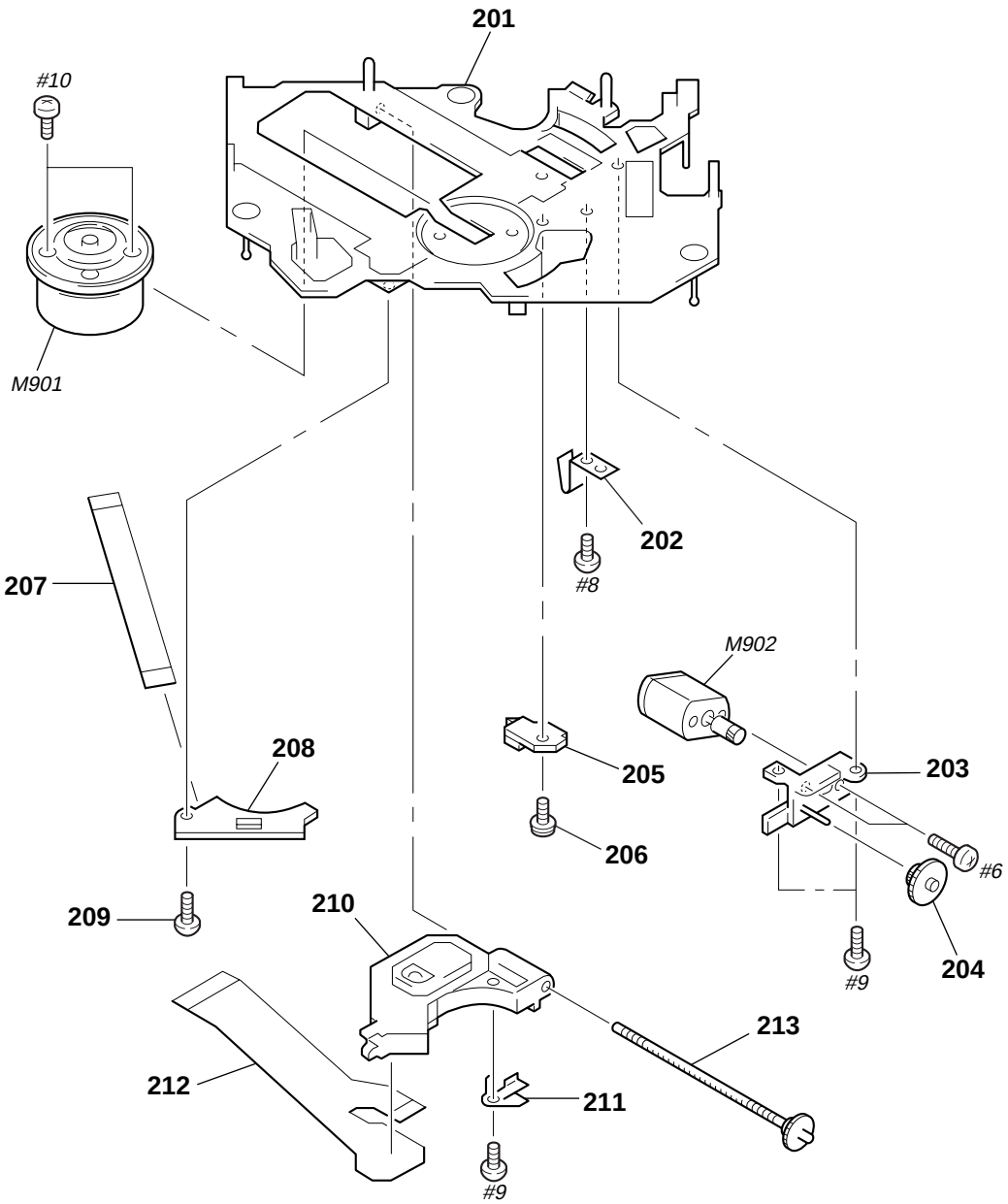
## 5-4. CD MECHANISM SECTION (2)
## (MG-363T-121)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 151 | 3-931-893-01 | ARM, CHUCKING | |
| 152 | 3-931-897-01 | DAMPER (T) | |
| 153 | 3-931-879-02 | LEVER (D) | |
| * 154 | 3-913-404-11 | RETAINER (DISC) | |
| 155 | 3-931-894-01 | BRACKET (CP) | |
| 156 | 3-931-895-01 | SPRING (CH), TENSION | |
| 157 | 3-018-272-01 | WASHER | |
| 158 | 3-032-483-02 | SPRING (KF1), TENSION | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 159 | A-3277-802-C | CHASSIS (M) ASSY | |
| 160 | 3-931-883-01 | SPRING (TR), TENSION | |
| 161 | 3-931-881-01 | LEVER (LOCK) | |
| 162 | 3-931-882-02 | GEAR (MDL) | |
| 163 | 3-007-537-11 | WHEEL (U), WORM | |
| 164 | 3-931-898-01 | SPRING (FL), COMPRESSION | |
| 165 | 3-032-484-01 | SPRING (KR1), TENSION | |
| 166 | 3-014-727-01 | WHEEL (LW), WORM | |

## 5-5. CD MECHANISM SECTION (3)
## (MG-363T-121)




The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 201 | X-3374-022-1 | CHASSIS (OP) (O/S) ASSY | |
| 202 | 3-931-829-01 | SPRING (SL), PLATE | |
| 203 | X-3371-504-1 | BASE (DRIVING) ASSY | |
| 204 | 3-931-832-01 | GEAR (SL MIDWAY) | |
| * 205 | 1-659-835-12 | LIMIT SW BOARD | |
| 206 | 3-338-737-01 | SCREW (2X3), +PS | |
| 207 | 1-659-880-11 | MOTOR FLEXIBLE BOARD | |
| * 208 | 1-659-834-11 | SUB BOARD | |
| 209 | 3-909-607-01 | SCREW | |
| ⚠210 | 8-820-010-06 | PICK-UP, OPTICAL KSS-521A/K1RP | |
| 211 | 3-931-834-01 | SPRING (FEED), PLATE | |
| 212 | 1-659-881-11 | PICK-UP FLEXIBLE BOARD | |
| 213 | A-3291-669-A | SHAFT (FEED) ASSY | |
| M901 | X-3371-664-2 | MOTOR ASSY (SPINDLE) | |
| M902 | A-3291-674-A | MOTOR ASSY, SLED (SLED) | |

**DISC IN SW** **DISPLAY**

# SECTION 6
# ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
  G : German model

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | 1-659-836-11 | DISC IN SW BOARD | | | |
| | | ********** | | | |
| | | < SWITCH > | | | |
| SW1 | 1-572-288-21 | SWITCH, PUSH (DISC IN) | | | |
| SW2 | 1-572-288-21 | SWITCH, PUSH (SELF) | | | |
| ********** | | | | | |
| | | DISPLAY BOARD | | | |
| | | ********** | | | |
| * | 3-030-888-01 | PLATE (LCD), GROUND | | | |
| * | 3-030-902-01 | PLATE (LCD), LIGHT GUIDE | | | |
| * | 3-030-908-01 | HOLDER, LCD | | | |
| * | 3-030-933-01 | SHEET (DIFFUSION) | | | |
| * | 3-032-199-01 | SHEET (ESD) | | | |
| | | < CAPACITOR > | | | |
| C501 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C502 | 1-164-336-00 | CERAMIC CHIP | 0.33uF | | 25V |
| C503 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| | | < CONNECTOR > | | | |
| CNP501 | 1-774-945-11 | PLUG, CONNECTOR 14P | | | |
| | | < DIODE > | | | |
| D501 | 8-719-976-99 | DIODE DTZ5.1B | | | |
| D502 | 8-719-976-99 | DIODE DTZ5.1B | | | |
| D503 | 8-719-914-43 | DIODE DAN202K | | | |
| D505 | 8-719-105-99 | DIODE RD6.2M-B1 | | | |
| D506 | 8-719-105-99 | DIODE RD6.2M-B1 | | | |
| D507 | 8-719-105-99 | DIODE RD6.2M-B1 | | | |
| | | < IC > | | | |
| IC501 | 8-759-366-34 | IC LC75824E | | | |
| IC502 | 8-749-015-73 | IC RPM6940-V4 | | | |
| | | < LIQUID CRYSTAL DISPLAY > | | | |
| LCD501 | 1-803-442-11 | DISPLAY PANEL, LIQUID CRYSTAL | | | |
| | | < DIODE > | | | |
| LED501 | 8-719-987-45 | LED CL-155Y/PG-CD | | | |
| LED502 | 8-719-987-45 | LED CL-155Y/PG-CD | | | |
| LED503 | 8-719-987-45 | LED CL-155Y/PG-CD | | | |
| LED504 | 8-719-987-45 | LED CL-155Y/PG-CD | | | |
| LED505 | 8-719-987-45 | LED CL-155Y/PG-CD | | | |
| LED510 | 8-719-073-89 | LED NSPW315BS | | | |
| LED511 | 8-719-073-89 | LED NSPW315BS | | | |
| | | < SWITCH > | | | |
| LSW512 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (AF/TA) | | | |
| LSW513 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (PTY/LIST) | | | |
| LSW514 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (10) | | | |
| LSW515 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (9) | | | |
| LSW516 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (8) | | | |
| LSW517 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (7) | | | |
| LSW518 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (6) | | | |
| LSW519 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (5) | | | |
| LSW520 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (4) | | | |
| LSW521 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (3) | | | |
| LSW531 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (OFF) | | | |
| LSW532 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (SOURCE) | | | |
| LSW533 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (DSPL) | | | |
| LSW534 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (SOUND) | | | |
| LSW535 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (MODE) | | | |
| LSW536 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (SHIFT) | | | |
| LSW537 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (1) | | | |
| LSW538 | 1-762-620-21 | SWITCH, KEY BOARD (WITH LED) (2) | | | |
| | | < TRANSISTOR > | | | |
| Q501 | 8-729-903-46 | TRANSISTOR 2SB1132-P | | | |
| Q502 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | | | |
| Q503 | 8-729-904-66 | TRANSISTOR DTD113EK | | | |
| Q504 | 8-729-904-66 | TRANSISTOR DTD113EK | | | |
| | | < RESISTOR > | | | |
| R501 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R502 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R503 | 1-216-069-11 | METAL CHIP | 6.8K | 5% | 1/10W |
| R504 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R511 | 1-216-043-00 | RES,CHIP | 560 | 5% | 1/10W |
| R512 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R513 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R514 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R515 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R516 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R517 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R518 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R519 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R520 | 1-216-069-11 | METAL CHIP | 6.8K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R531 | 1-216-043-00 | RES,CHIP | 560 | 5% | 1/10W |
| R532 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R533 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R534 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R535 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R536 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R537 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R538 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R539 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R541 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R542 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R543 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R544 | 1-216-030-00 | METAL CHIP | 160 | 5% | 1/10W |
| R551 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R552 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R553 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R554 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R555 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R556 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R557 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R558 | 1-216-107-00 | METAL CHIP | 270K | 5% | 1/10W |
| R559 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R560 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R561 | 1-216-041-11 | METAL CHIP | 470 | 5% | 1/10W |
| R581 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R582 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R583 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R584 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W |
| R585 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R586 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W |
| R587 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R588 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W |
| R589 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R590 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W |
| R591 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R592 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W |
| | | < ROTARY ENCODER > | | | |
| RE501 | 1-475-014-11 | ENCODER, ROTARY | | | |
| | | < SWITCH > | | | |
| S501 | 1-762-937-11 | SWITCH, ROTARY (D-BASS) | | | |
| S502 | 1-771-290-11 | SWITCH, SLIDE (SEEK/AMS) | | | |

**********

| | | | | | |
|---|---|---|---|---|---|
| * | 1-659-835-12 | LIMIT SW BOARD | | | |
| | | ********** | | | |
| | | < SWITCH > | | | |
| SW3 | 1-572-688-11 | SWITCH, PUSH (1 KEY) (LIMIT) | | | |

**********

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | 1-659-837-11 | LOAD SW BOARD | | | |
| | | ********** | | | |
| | | < SWITCH > | | | |
| SW4 | 1-572-288-21 | SWITCH, PUSH (DOWN) | | | |

**********

| | | | | | |
|---|---|---|---|---|---|
| * | A-3294-597-A | MAIN BOARD, COMPLETE | | | |
| | | ********** | | | |
| * | 3-030-864-01 | BRACKET (IC) | | | |
| * | 3-030-884-01 | HEAT SINK (REG) | | | |
| * | 3-032-204-11 | HEAT SINK | | | |
| | 7-685-793-09 | SCREW +PTT 2.6X8 (S) | | | |
| | 7-685-795-09 | SCREW +PTT 2.6X12 (S) | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-163-012-00 | CERAMIC CHIP | 0.0018uF | 10% | 50V |
| C103 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C104 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C105 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C106 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C120 | 1-126-295-11 | ELECT | 10uF | 20% | 35V |
| C121 | 1-126-295-11 | ELECT | 10uF | 20% | 35V |
| C122 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C123 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C126 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C129 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C130 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C131 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C201 | 1-163-012-00 | CERAMIC CHIP | 0.0018uF | 10% | 50V |
| C203 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C204 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C205 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C220 | 1-126-295-11 | ELECT | 10uF | 20% | 35V |
| C221 | 1-126-295-11 | ELECT | 10uF | 20% | 35V |
| C222 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C223 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C226 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C229 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C230 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C231 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C401 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C402 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C403 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C404 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C406 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C407 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C408 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C409 | 1-126-936-11 | ELECT | 3300uF | 20% | 16V |
| C410 | 1-124-242-00 | ELECT | 33uF | 20% | 25V |
| C411 | 1-124-252-00 | ELECT | 0.33uF | 20% | 50V |
| C415 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C416 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |

## MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C417 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C499 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C601 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C602 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| C603 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C604 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C605 | 1-124-234-00 | ELECT | 22uF | 20% | 16V |
| C606 | 1-124-584-00 | ELECT | 100uF | 20% | 10V |
| C607 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C608 | 1-126-295-11 | ELECT | 10uF | 20% | 35V |
| C609 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C610 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C611 | 1-163-079-00 | CERAMIC CHIP | 0.039uF | 10% | 25V |
| C612 | 1-164-344-11 | CERAMIC CHIP | 0.068uF | 10% | 25V |
| C613 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| C614 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C615 | 1-162-587-11 | CERAMIC CHIP | 0.039uF | 10% | 25V |
| C617 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C618 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C619 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C621 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C622 | 1-126-295-11 | ELECT | 10uF | 20% | 35V |
| C623 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C624 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C625 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C626 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C628 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C629 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C630 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |
| C631 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.5PF | 50V |
| C632 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C636 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C637 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C638 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C639 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C640 | 1-163-006-11 | CERAMIC CHIP | 560PF | 10% | 50V |
| C641 | 1-163-237-11 | CERAMIC CHIP | 27PF | 5% | 50V |
| C642 | 1-163-237-11 | CERAMIC CHIP | 27PF | 5% | 50V |
| C643 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C644 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C645 | 1-124-589-11 | ELECT | 47uF | 20% | 16V |
| C646 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C647 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C648 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C649 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C651 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C653 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C654 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C657 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C658 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C660 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C661 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C662 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C663 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C664 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C665 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C666 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C667 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C671 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C692 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C693 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C694 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C702 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C703 | 1-126-295-11 | ELECT | 10uF | 20% | 35V |
| C704 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C705 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C707 | 1-162-970-11 | CERAMIC CHIP | 0.01uF | 10% | 25V |
| C708 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C709 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C710 | 1-126-295-11 | ELECT | 10uF | 20% | 35V |
| C718 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C719 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C780 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C781 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C799 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C801 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C802 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C806 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C810 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C811 | 1-163-233-11 | CERAMIC CHIP | 18PF | 5% | 50V |
| C812 | 1-163-233-11 | CERAMIC CHIP | 18PF | 5% | 50V |
| C813 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C814 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C815 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C816 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C817 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C903 | 1-124-465-00 | ELECT | 0.47uF | 20% | 50V |
| C904 | 1-128-057-11 | ELECT | 330uF | 20% | 6.3V |
| C910 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C912 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C913 | 1-126-160-11 | ELECT | 1uF | 20% | 50V |
| C914 | 1-125-701-11 | DOUBLE LAYERS | 0.047F | | 5.5V |
| C917 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C920 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C921 | 1-124-465-00 | ELECT | 0.47uF | 20% | 50V |
| C922 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C923 | 1-124-465-00 | ELECT | 0.47uF | 20% | 50V |
| C926 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C930 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C931 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C932 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C934 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C950 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| | | < JACK > | | | |
| CNJ600 | 1-764-808-21 | JACK (ANT) | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| CNP802 | 1-566-822-41 | JACK (REMOTE IN) | |
| | | < CONNECTOR > | |
| CNP501 | 1-774-701-11 | PIN, CONNECTOR 16P | |
| CNP700 | 1-764-617-12 | PIN, CONNECTOR (PC BOARD) 30P | |
| CNP800 | 1-565-937-11 | SOCKET, CONNECTOR 13P | |
| CNP801 | 1-580-907-31 | PLUG, CONNECTOR (BUS CONTROL IN) | |
| | | < DIODE > | |
| D402 | 8-719-109-71 | DIODE RD3.9ES-B1 | |
| D403 | 8-719-914-43 | DIODE DAN202K | |
| D404 | 8-719-923-92 | DIODE MTZJ-T-77-16B | |
| D405 | 8-719-923-92 | DIODE MTZJ-T-77-16B | |
| D406 | 8-719-923-92 | DIODE MTZJ-T-77-16B | |
| D407 | 8-719-923-92 | DIODE MTZJ-T-77-16B | |
| D408 | 8-719-923-92 | DIODE MTZJ-T-77-16B | |
| D409 | 8-719-923-92 | DIODE MTZJ-T-77-16B | |
| D410 | 8-719-923-92 | DIODE MTZJ-T-77-16B | |
| D411 | 8-719-923-92 | DIODE MTZJ-T-77-16B | |
| D601 | 8-719-158-15 | DIODE RD5.6S-B | |
| D603 | 8-719-987-69 | DIODE DAN217 | |
| D604 | 8-719-058-24 | DIODE RB501V-40TE-17 | |
| D701 | 8-719-914-44 | DIODE DAP202K | |
| D702 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D801 | 8-719-058-24 | DIODE RB501V-40TE-17 | |
| D807 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D808 | 8-719-914-43 | DIODE DAN202K | |
| D809 | 8-719-056-93 | DIODE UDZ-TE-17-18B | |
| D810 | 8-719-056-93 | DIODE UDZ-TE-17-18B | |
| D823 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D824 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D856 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D857 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D858 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D859 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D860 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D861 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D862 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D863 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D864 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D865 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D870 | 8-719-976-99 | DIODE DTZ5.1B | |
| D881 | 8-719-914-43 | DIODE DAN202K | |
| D901 | 8-719-200-82 | DIODE 11ES2 | |
| D902 | 8-719-200-82 | DIODE 11ES2 | |
| D903 | 8-719-049-38 | DIODE 1N5404TU | |
| D904 | 8-719-200-82 | DIODE 11ES2 | |
| D909 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D910 | 8-719-978-69 | DIODE DTZ-TT11-16B | |
| D912 | 8-719-923-60 | DIODE MTZJ-T-77-9.1A | |
| D913 | 8-719-109-89 | DIODE RD5.6ESB2 | |
| D914 | 8-719-056-83 | DIODE UDZ-TE-17-6.8B | |
| D915 | 8-719-923-60 | DIODE MTZJ-T-77-9.1A | |
| D916 | 8-719-921-80 | DIODE MTZJ-11B | |
| D918 | 8-719-914-44 | DIODE DAP202K | |
| D919 | 8-719-914-43 | DIODE DAN202K | |
| D920 | 8-719-978-69 | DIODE DTZ-TT11-16B | |
| D924 | 8-719-200-82 | DIODE 11ES2 | |
| D940 | 8-719-978-69 | DIODE DTZ-TT11-16B | |
| | | < IC > | |
| IC200 | 8-759-490-74 | IC TDA7384 | |
| IC401 | 8-759-572-10 | IC TDA7462D013TR | |
| IC601 | 8-759-572-11 | IC TDA7427AD1TR | |
| IC602 | 8-759-492-59 | IC SAA6588T-118 | |
| IC603 | 8-759-909-71 | IC BA4558F | |
| IC702 | 8-759-464-81 | IC PCM1717E-ST2 | |
| IC703 | 8-759-428-57 | IC LC89170M-TLM | |
| IC801 | 8-759-572-39 | IC MB90574APMT-G-200-BND | |
| IC803 | 8-759-449-89 | IC BA8270F-E2 | |
| IC901 | 8-759-572-12 | IC BA4903 | |
| IC902 | 8-759-363-81 | IC XC61AN4002PR | |
| | | < JUMPER RESISTOR > | |
| JR401 | 1-216-295-00 | SHORT 0 | |
| JR402 | 1-216-295-00 | SHORT 0 | |
| JR405 | 1-216-295-00 | SHORT 0 | |
| JR409 | 1-216-295-00 | SHORT 0 | |
| JR603 | 1-216-295-00 | SHORT 0 | |
| JR609 | 1-216-295-00 | SHORT 0 | |
| JR611 | 1-216-295-00 | SHORT 0 | |
| JR613 | 1-216-295-00 | SHORT 0 | |
| JR615 | 1-216-295-00 | SHORT 0 | |
| JR616 | 1-216-295-00 | SHORT 0 | |
| JR617 | 1-216-295-00 | SHORT 0 | |
| JR618 | 1-216-295-00 | SHORT 0 | |
| JR620 | 1-216-295-00 | SHORT 0 | |
| JR621 | 1-216-295-00 | SHORT 0 | |
| JR622 | 1-216-295-00 | SHORT 0 | |
| JR623 | 1-216-295-00 | SHORT 0 | |
| JR624 | 1-216-295-00 | SHORT 0 | |
| JR702 | 1-216-295-00 | SHORT 0 | |
| JR710 | 1-216-295-00 | SHORT 0 | |
| JR720 | 1-216-295-00 | SHORT 0 | |
| JR722 | 1-216-295-00 | SHORT 0 | |
| JR765 | 1-216-295-00 | SHORT 0 | |
| JR855 | 1-216-295-00 | SHORT 0 | |
| JR857 | 1-216-295-00 | SHORT 0 | |
| | | < COIL > | |
| L601 | 1-410-513-11 | INDUCTOR 22uH | |
| L603 | 1-414-142-11 | INDUCTOR 1uH | |
| L901 | 1-416-539-21 | INDUCTOR 370uH | |

## MAIN

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < JACK > | |
| PJ400 | 1-774-700-21 | JACK, PIN 6P (BUS AUDIO IN,LINE OUT) | |
| | | < TRANSISTOR > | |
| Q101 | 8-729-920-21 | TRANSISTOR DTC314TKH04 | |
| Q110 | 8-729-920-31 | TRANSISTOR DTC343TK | |
| Q111 | 8-729-920-31 | TRANSISTOR DTC343TK | |
| Q201 | 8-729-920-21 | TRANSISTOR DTC314TKH04 | |
| Q210 | 8-729-920-31 | TRANSISTOR DTC343TK | |
| Q211 | 8-729-920-31 | TRANSISTOR DTC343TK | |
| Q401 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q402 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q603 | 8-729-030-51 | TRANSISTOR 2SA1515S-R-TP | |
| Q604 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q605 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q609 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q610 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q612 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q613 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | |
| Q614 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | |
| Q615 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q618 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | |
| Q804 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q806 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q901 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q902 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q903 | 8-729-019-00 | TRANSISTOR 2SD2394-G | |
| Q904 | 8-729-019-00 | TRANSISTOR 2SD2394-G | |
| Q905 | 8-729-900-53 | TRANSISTOR DTC114EK | |
| Q906 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q907 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q908 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q909 | 8-729-015-11 | TRANSISTOR 2SD1802FAST-TL | |
| Q910 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q911 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q912 | 8-729-019-00 | TRANSISTOR 2SD2394-G | |
| Q913 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q914 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q915 | 8-729-027-31 | TRANSISTOR DTA124EKA-T146 | |
| Q916 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | |
| Q919 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q924 | 8-729-903-46 | TRANSISTOR 2SB1132-P | |
| Q925 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q940 | 8-729-620-06 | TRANSISTOR 2SC3052-EF | |
| | | < RESISTOR > | |
| R101 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R102 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R111 | 1-216-065-00 | RES,CHIP 4.7K 5% 1/10W | |
| R112 | 1-216-049-11 | RES,CHIP 1K 5% 1/10W | |
| R113 | 1-216-065-00 | RES,CHIP 4.7K 5% 1/10W | |
| R114 | 1-216-049-11 | RES,CHIP 1K 5% 1/10W | |
| R115 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | |
| R116 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | |
| R117 | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W | |
| R118 | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W | |
| R123 | 1-216-089-00 | RES,CHIP 47K 5% 1/10W | |
| R125 | 1-216-089-00 | RES,CHIP 47K 5% 1/10W | |
| R126 | 1-216-095-00 | RES,CHIP 82K 5% 1/10W | |
| R127 | 1-216-064-00 | METAL CHIP 4.3K 5% 1/10W | |
| R128 | 1-216-082-00 | RES,CHIP 24K 5% 1/10W | |
| R129 | 1-216-082-00 | RES,CHIP 24K 5% 1/10W | |
| R130 | 1-216-089-00 | RES,CHIP 47K 5% 1/10W | |
| R201 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R202 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R211 | 1-216-065-00 | RES,CHIP 4.7K 5% 1/10W | |
| R212 | 1-216-049-11 | RES,CHIP 1K 5% 1/10W | |
| R213 | 1-216-065-00 | RES,CHIP 4.7K 5% 1/10W | |
| R214 | 1-216-049-11 | RES,CHIP 1K 5% 1/10W | |
| R215 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | |
| R216 | 1-216-075-00 | METAL CHIP 12K 5% 1/10W | |
| R217 | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W | |
| R218 | 1-216-129-00 | METAL CHIP 2.2M 5% 1/10W | |
| R223 | 1-216-089-00 | RES,CHIP 47K 5% 1/10W | |
| R226 | 1-216-095-00 | RES,CHIP 82K 5% 1/10W | |
| R227 | 1-216-064-00 | METAL CHIP 4.3K 5% 1/10W | |
| R228 | 1-216-082-00 | RES,CHIP 24K 5% 1/10W | |
| R229 | 1-216-082-00 | RES,CHIP 24K 5% 1/10W | |
| R230 | 1-216-089-00 | RES,CHIP 47K 5% 1/10W | |
| R401 | 1-216-049-11 | RES,CHIP 1K 5% 1/10W | |
| R402 | 1-216-065-00 | RES,CHIP 4.7K 5% 1/10W | |
| R403 | 1-216-113-00 | METAL CHIP 470K 5% 1/10W | |
| R404 | 1-216-295-00 | SHORT 0 | |
| R405 | 1-216-295-00 | SHORT 0 | |
| R408 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R602 | 1-216-025-00 | RES,CHIP 100 5% 1/10W | |
| R603 | 1-216-083-00 | METAL CHIP 27K 5% 1/10W | |
| R605 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| R606 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R607 | 1-216-097-00 | RES,CHIP 100K 5% 1/10W | |
| R608 | 1-216-025-00 | RES,CHIP 100 5% 1/10W | |
| R609 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R611 | 1-216-025-00 | RES,CHIP 100 5% 1/10W | |
| R612 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R613 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R614 | 1-216-295-00 | SHORT 0 | |
| R615 | 1-216-295-00 | SHORT 0 | |
| R616 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R617 | 1-216-025-00 | RES,CHIP 100 5% 1/10W | |
| R619 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R621 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R623 | 1-216-049-11 | RES,CHIP 1K 5% 1/10W | |
| R624 | 1-216-049-11 | RES,CHIP 1K 5% 1/10W | |
| R625 | 1-216-037-00 | METAL CHIP 330 5% 1/10W | |
| R626 | 1-216-049-11 | RES,CHIP 1K 5% 1/10W | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R627 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R628 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R630 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R631 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R632 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R633 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R634 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R635 | 1-216-009-00 | RES,CHIP | 22 | 5% | 1/10W |
| R636 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R637 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R638 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R639 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R640 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R641 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R642 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R643 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R644 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R645 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R646 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R647 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R648 | 1-216-295-00 | SHORT | 0 | | |
| R649 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R694 | 1-216-017-00 | RES,CHIP | 47 | 5% | 1/10W |
| R695 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R697 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R699 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R701 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R702 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R703 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R705 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R708 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R710 | 1-216-027-00 | METAL CHIP | 120 | 5% | 1/10W |
| R711 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R712 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R723 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R802 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R805 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R806 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R807 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R808 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R809 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R810 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R812 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R813 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R814 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R816 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R822 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R823 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R825 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R826 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R827 | 1-216-105-00 | RES,CHIP | 220K | 5% | 1/10W |
| R828 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R829 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R830 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R831 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R832 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R833 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R834 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R839 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R840 | 1-216-089-00 | RES,CHIP | 47K | 5% | 1/10W |
| R841 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R842 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R843 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R844 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R845 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R846 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R847 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R848 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R851 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R856 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R858 | 1-216-295-00 | SHORT | 0 | | |
| R859 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R860 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R861 | 1-216-105-00 | RES,CHIP | 220K | 5% | 1/10W |
| R862 | 1-216-105-00 | RES,CHIP | 220K | 5% | 1/10W |
| R863 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R868 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R869 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R870 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R871 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R899 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R902 | 1-216-049-11 | RES,CHIP | 1K | 5% | 1/10W |
| R903 | 1-216-041-11 | METAL CHIP | 470 | 5% | 1/10W |
| R904 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R906 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R907 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R908 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R909 | 1-216-041-11 | METAL CHIP | 470 | 5% | 1/10W |
| R910 | 1-216-041-11 | METAL CHIP | 470 | 5% | 1/10W |
| R911 | 1-216-041-11 | METAL CHIP | 470 | 5% | 1/10W |
| R915 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R917 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R918 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R919 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R920 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R925 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R928 | 1-216-041-11 | METAL CHIP | 470 | 5% | 1/10W |
| R933 | 1-216-025-00 | RES,CHIP | 100 | 5% | 1/10W |
| R936 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R937 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R940 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R999 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |

< VARIABLE RESISTOR >

| | | | | | |
|---|---|---|---|---|---|
| RV801 | 1-241-788-11 | RES, ADJ, CARBON | 100K | | |

**MAIN** **RELAY** **SERVO**

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < SWITCH > | | | |
| S900 | 1-692-431-21 | SWITCH, TACTILE (RESET) | | | |
| S901 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (NOSE DET) | | | |
| | | < THERMISTOR (POSITIVE) > | | | |
| TH801 | 1-803-448-21 | THERMISTOR, POSITIVE | | | |
| | | < TUNER > | | | |
| TU601 | 1-693-440-11 | TUNER UNIT | | | |
| | | < VIBRATOR > | | | |
| X601 | 1-781-258-11 | VIBRATOR, CRYSTAL (10.25MHz) | | | |
| X602 | 1-579-242-41 | VIBRATOR, CRYSTAL (4.3MHz) | | | |
| X700 | 1-579-345-11 | VIBRATOR, CERAMIC (16.9344MHz) | | | |
| X800 | 1-767-833-21 | VIBRATOR, CERAMIC (3.68MHz) | | | |
| X801 | 1-567-098-41 | VIBRATOR, CRYSTAL (32kHz) | | | |
| ********** | | | | | |
| * | 1-672-512-11 | RELAY BOARD | | | |
| | | ********** | | | |
| | | < CONNECTOR > | | | |
| CNP502 | 1-774-944-11 | SOCKET, CONNECTOR 14P | | | |
| | | < DIODE > | | | |
| LED506 | 8-719-033-14 | LED CL-170PG-CD-T (CD WINDOW) | | | |
| LED507 | 8-719-033-14 | LED CL-170PG-CD-T (⏏) | | | |
| | | < SWITCH > | | | |
| LSW511 | 1-762-619-21 | SWITCH, KEY BOARD (WITH LED) (⏏) | | | |
| | | < RESISTOR > | | | |
| R530 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| ********** | | | | | |
| * | A-3309-694-A | SERVO BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C1 | 1-107-823-11 | CERAMIC CHIP | 0.47uF | 10% | 16V |
| C2 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C3 | 1-135-145-11 | TANTALUM CHIP | 0.47uF | 10% | 35V |
| C4 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C5 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| C6 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C7 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C9 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C10 | 1-126-206-11 | ELECT CHIP | 100uF | 20% | 6.3V |
| C11 | 1-135-259-11 | TANTAL. CHIP | 10uF | 20% | 6.3V |
| C12 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.5PF | 50V |
| C13 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C14 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |

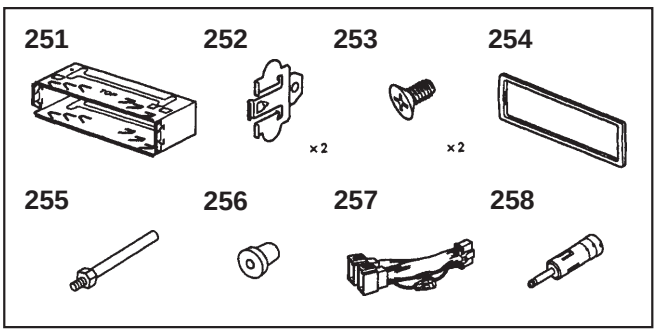
| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C15 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C16 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C17 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C18 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C19 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C20 | 1-107-823-11 | CERAMIC CHIP | 0.47uF | 10% | 16V |
| C21 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C22 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C23 | 1-135-259-11 | TANTAL. CHIP | 10uF | 20% | 6.3V |
| C24 | 1-163-259-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C25 | 1-107-823-11 | CERAMIC CHIP | 0.47uF | 10% | 16V |
| C26 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C27 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C28 | 1-163-023-00 | CERAMIC CHIP | 0.015uF | 5% | 50V |
| C29 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C30 | 1-126-603-11 | ELECT CHIP | 4.7uF | 20% | 35V |
| C31 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C32 | 1-163-023-00 | CERAMIC CHIP | 0.015uF | 5% | 50V |
| C33 | 1-124-779-00 | ELECT CHIP | 10uF | 20% | 16V |
| C34 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C35 | 1-163-021-11 | CERAMIC CHIP | 0.01uF | 10% | 50V |
| C36 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C37 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C38 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C39 | 1-126-204-11 | ELECT CHIP | 47uF | 20% | 16V |
| C40 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| | | < CONNECTOR > | | | |
| CN1 | 1-764-616-12 | HOUSING, CONNECTOR (PC BOARD) 30P | | | |
| CN2 | 1-565-728-51 | CONNECTOR, FPC 17P | | | |
| CN3 | 1-770-347-21 | CONNECTOR, FPC 6P | | | |
| | | < IC > | | | |
| IC1 | 8-752-372-94 | IC CXD2507AQ | | | |
| IC2 | 8-752-074-34 | IC CXA1782BQ | | | |
| IC3 | 8-759-354-16 | IC BA6796FP-T1 | | | |
| | | < JUMPER RESISTOR > | | | |
| JR01 | 1-216-296-00 | SHORT | 0 | | |
| JR03 | 1-216-296-00 | SHORT | 0 | | |
| JR04 | 1-216-296-00 | SHORT | 0 | | |
| JR05 | 1-216-296-00 | SHORT | 0 | | |
| JR06 | 1-216-296-00 | SHORT | 0 | | |
| JR07 | 1-216-296-00 | SHORT | 0 | | |
| JR08 | 1-216-296-00 | SHORT | 0 | | |
| JR09 | 1-216-296-00 | SHORT | 0 | | |
| JR10 | 1-216-296-00 | SHORT | 0 | | |
| JR11 | 1-216-296-00 | SHORT | 0 | | |
| JR12 | 1-216-296-00 | SHORT | 0 | | |
| JR13 | 1-216-296-00 | SHORT | 0 | | |
| JR14 | 1-216-296-00 | SHORT | 0 | | |
| JR15 | 1-216-296-00 | SHORT | 0 | | |
| JR16 | 1-216-296-00 | SHORT | 0 | | |

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| JR17 | 1-216-296-00 | SHORT | 0 | |
| JR18 | 1-216-296-00 | SHORT | 0 | |
| JR19 | 1-216-296-00 | SHORT | 0 | |
| JR20 | 1-216-296-00 | SHORT | 0 | |
| JR21 | 1-216-296-00 | SHORT | 0 | |
| JR22 | 1-216-296-00 | SHORT | 0 | |
| JR23 | 1-216-296-00 | SHORT | 0 | |
| JR24 | 1-216-296-00 | SHORT | 0 | |
| JR25 | 1-216-296-00 | SHORT | 0 | |
| JR26 | 1-216-296-00 | SHORT | 0 | |
| JR27 | 1-216-296-00 | SHORT | 0 | |
| JR28 | 1-216-296-00 | SHORT | 0 | |
| JR29 | 1-216-296-00 | SHORT | 0 | |
| JR30 | 1-216-296-00 | SHORT | 0 | |
| JR31 | 1-216-296-00 | SHORT | 0 | |
| JR32 | 1-216-296-00 | SHORT | 0 | |
| JR33 | 1-216-296-00 | SHORT | 0 | |
| JR34 | 1-216-296-00 | SHORT | 0 | |
| JR35 | 1-216-296-00 | SHORT | 0 | |
| JR36 | 1-216-296-00 | SHORT | 0 | |
| JR37 | 1-216-296-00 | SHORT | 0 | |
| JR38 | 1-216-296-00 | SHORT | 0 | |
| JR40 | 1-216-296-00 | SHORT | 0 | |
| JR41 | 1-216-296-00 | SHORT | 0 | |
| JR42 | 1-216-296-00 | SHORT | 0 | |
| JR43 | 1-216-296-00 | SHORT | 0 | |
| JR44 | 1-216-296-00 | SHORT | 0 | |
| JR45 | 1-216-296-00 | SHORT | 0 | |
| JR46 | 1-216-296-00 | SHORT | 0 | |
| JR47 | 1-216-296-00 | SHORT | 0 | |
| JR48 | 1-216-296-00 | SHORT | 0 | |
| JR49 | 1-216-296-00 | SHORT | 0 | |
| JR50 | 1-216-296-00 | SHORT | 0 | |
| JR51 | 1-216-296-00 | SHORT | 0 | |
| JR52 | 1-216-296-00 | SHORT | 0 | |
| JR53 | 1-216-296-00 | SHORT | 0 | |
| JR54 | 1-216-296-00 | SHORT | 0 | |
| JR55 | 1-216-296-00 | SHORT | 0 | |
| JR56 | 1-216-296-00 | SHORT | 0 | |
| JR57 | 1-216-296-00 | SHORT | 0 | |
| JR58 | 1-216-296-00 | SHORT | 0 | |
| JR59 | 1-216-296-00 | SHORT | 0 | |
| JR60 | 1-216-296-00 | SHORT | 0 | |
| JR61 | 1-216-296-00 | SHORT | 0 | |
| JR62 | 1-216-296-00 | SHORT | 0 | |
| JR63 | 1-216-296-00 | SHORT | 0 | |
| JR64 | 1-216-296-00 | SHORT | 0 | |
| JR65 | 1-216-296-00 | SHORT | 0 | |
| JR66 | 1-216-296-00 | SHORT | 0 | |
| JR67 | 1-216-296-00 | SHORT | 0 | |
| JR68 | 1-216-296-00 | SHORT | 0 | |
| JR69 | 1-216-296-00 | SHORT | 0 | |
| JR70 | 1-216-296-00 | SHORT | 0 | |
| JR71 | 1-216-296-00 | SHORT | 0 | |
| | | < COIL > | | |
| L1 | 1-412-058-11 | INDUCTOR CHIP | 10uH | |
| L2 | 1-412-058-11 | INDUCTOR CHIP | 10uH | |
| L3 | 1-412-058-11 | INDUCTOR CHIP | 10uH | |
| | | < TRANSISTOR > | | |
| Q1 | 8-729-033-65 | FET 2SJ204-T1B | | |
| Q2 | 8-729-904-86 | TRANSISTOR 2SB1197K-Q | | |
| Q3 | 8-729-025-41 | TRANSISTOR UPA602T-T2 | | |
| Q4 | 8-729-025-41 | TRANSISTOR UPA602T-T2 | | |
| Q5 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | |
| Q6 | 8-729-025-41 | TRANSISTOR UPA602T-T2 | | |
| | | < RESISTOR > | | |
| R1 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | |
| R2 | 1-216-097-00 | RES,CHIP | 100K 5% 1/10W | |
| R3 | 1-216-121-00 | RES,CHIP | 1M 5% 1/10W | |
| R4 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W | |
| R5 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W | |
| R6 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | |
| R7 | 1-216-009-00 | RES,CHIP | 22 5% 1/10W | |
| R8 | 1-216-119-00 | METAL CHIP | 820K 5% 1/10W | |
| R9 | 1-216-119-00 | METAL CHIP | 820K 5% 1/10W | |
| R10 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | |
| R11 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | |
| R14 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W | |
| R15 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W | |
| R16 | 1-216-077-00 | METAL CHIP | 15K 5% 1/10W | |
| R17 | 1-216-081-00 | METAL CHIP | 22K 5% 1/10W | |
| R19 | 1-216-079-00 | METAL CHIP | 18K 5% 1/10W | |
| R20 | 1-216-105-00 | RES,CHIP | 220K 5% 1/10W | |
| R21 | 1-216-105-00 | RES,CHIP | 220K 5% 1/10W | |
| R22 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W | |
| R23 | 1-216-121-00 | RES,CHIP | 1M 5% 1/10W | |
| R24 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | |
| R27 | 1-216-295-00 | SHORT | 0 | |
| R28 | 1-216-101-00 | METAL CHIP | 150K 5% 1/10W | |
| R29 | 1-216-097-00 | RES,CHIP | 100K 5% 1/10W | |
| R30 | 1-216-097-00 | RES,CHIP | 100K 5% 1/10W | |
| R31 | 1-216-081-00 | METAL CHIP | 22K 5% 1/10W | |
| R32 | 1-216-109-00 | METAL CHIP | 330K 5% 1/10W | |
| R33 | 1-216-105-00 | RES,CHIP | 220K 5% 1/10W | |
| R34 | 1-216-009-00 | RES,CHIP | 22 5% 1/10W | |
| R35 | 1-216-065-00 | RES,CHIP | 4.7K 5% 1/10W | |
| R36 | 1-216-097-00 | RES,CHIP | 100K 5% 1/10W | |
| R37 | 1-216-117-00 | METAL CHIP | 680K 5% 1/10W | |
| R38 | 1-216-109-00 | METAL CHIP | 330K 5% 1/10W | |
| R39 | 1-216-101-00 | METAL CHIP | 150K 5% 1/10W | |
| R40 | 1-216-114-00 | RES,CHIP | 510K 5% 1/10W | |
| R41 | 1-216-093-00 | RES,CHIP | 68K 5% 1/10W | |

**SERVO** **SUB**

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R42 | 1-216-107-00 | METAL CHIP | 270K | 5% | 1/10W |
| R43 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R44 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R45 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R46 | 1-216-097-00 | RES,CHIP | 100K | 5% | 1/10W |
| R47 | 1-216-105-00 | RES,CHIP | 220K | 5% | 1/10W |
| R48 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R49 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R50 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R51 | 1-216-295-00 | SHORT | 0 | | |
| R56 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R57 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R58 | 1-216-121-00 | RES,CHIP | 1M | 5% | 1/10W |
| R59 | 1-216-089-00 | RES,CHIP | 47K | 5% | 1/10W |
| R60 | 1-216-089-00 | RES,CHIP | 47K | 5% | 1/10W |
| R61 | 1-208-291-11 | RES,CHIP | 4.7M | 5% | 1/10W |
| R62 | 1-208-291-11 | RES,CHIP | 4.7M | 5% | 1/10W |
| | | < VARIABLE RESISTOR > | | | |
| RV1 | 1-238-091-11 | RES, ADJ, CERMET | 22K | | |
| RV4 | 1-238-091-11 | RES, ADJ, CERMET | 22K | | |
| * | 1-659-834-11 | SUB BOARD | | | |
| | | < CONNECTOR > | | | |
| CN1 | 1-770-347-21 | CONNECTOR, FPC 6P | | | |
| | | MISCELLANEOUS | | | |
| 14 | 1-790-481-11 | CABLE, FLAT (FFC) 13P | | | |
| 16 | 1-776-527-61 | CORD (WITH CONNECTOR) (ISO) (POWER) | | | |
| 207 | 1-659-880-11 | MOTOR FLEXIBLE BOARD | | | |
| ⚠210 | 8-820-010-06 | PICK-UP, OPTICAL KSS-521A/K1RP | | | |
| 212 | 1-659-881-11 | PICK-UP FLEXIBLE BOARD | | | |
| F901 | 1-532-877-11 | FUSE (BLADE TYPE) (AUTO FUSE) 10A | | | |
| M901 | X-3371-664-2 | MOTOR ASSY (SPINDLE) | | | |
| M902 | A-3291-674-A | MOTOR ASSY, SLED (SLED) | | | |
| M903 | A-3291-676-A | MOTOR SUB ASSY, LOADING (LOADING) | | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | ACCESSORIES & PACKING MATERIALS | |
| | 3-865-875-11 | MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,PORTUGUESE,SWEDISH) (AEP,UK) | |
| | 3-865-875-21 | MANUAL, INSTRUCTION, INSTALL (FRENCH, GERMAN,DUTCH,ITALIAN) (AEP,G) | |
| | 3-865-876-11 | MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,SWEDISH) (AEP,UK) | |
| | 3-865-876-21 | MANUAL, INSTRUCTION (FRENCH,GERMAN, DUTCH,ITALIAN) (AEP) | |
| | 3-865-876-31 | MANUAL, INSTRUCTION (GERMAN) (G) | |
| | X-3374-927-1 | CASE ASSY | |
| | | HARDWARE LIST | |
| #1 | 7-685-793-09 | SCREW +PTT 2.6X8 (S) | |
| #2 | 7-685-792-09 | SCREW +PTT 2.6X6 (S) | |
| #3 | 7-685-795-09 | SCREW +PTT 2.6X12 (S) | |
| #4 | 7-685-106-19 | SCREW +P 2X10 TYPE2 NON-SLIT | |
| #5 | 7-621-772-10 | SCREW +B 2X4 | |
| #6 | 7-627-850-28 | SCREW, PRECISION +P 1.4X3 | |
| #7 | 7-628-253-00 | SCREW +PS 2X4 | |
| #8 | 7-627-553-17 | SCREW, PRECISION +P 2X2 TYPE3 | |
| #9 | 7-627-553-37 | SCREW, PRECISION +P 2X3 TYPE3 | |
| #10 | 7-627-000-00 | SCREW, PRECISION +P 1.7X2.2 TYPE3 | |
| | | PARTS FOR INSTALLATION AND CONNECTIONS | |
| 251 | 3-011-653-11 | FRAME | |
| 252 | 3-030-885-01 | SPRING, FITTING | |
| 253 | 3-934-325-01 | SCREW (+K 5X8) TAPPING | |
| 254 | X-3376-976-1 | COLLAR ASSY | |
| 255 | 3-034-262-01 | SCREW, FITTING | |
| * 256 | 3-358-697-01 | BUSHING | |
| 257 | 1-776-527-61 | CORD (WITH CONNECTOR) (ISO) (POWER) | |
| 258 | 1-465-459-11 | ADAPTOR, ANTENNA | |




The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.